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Perceptions and Use of Cooperative Learning by Community College Faculty Members

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PERCEPTIONS AND USE OF COOPERATIVE LEARNING BY COMMUNITY COLLEGE FACULTY MEMBERS

by

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Dedication

This dissertation is dedicated to my husband Peter Noel Hunter Jr. and my children Peter Hunter III and Marla Hunter for all their hard work and support in helping me through this doctoral journey.

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Abstract

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The researcher of this study examined the perceptions and use of cooperative learning by community college faculty members. The researcher used the survey method as part of a quantitative, descriptive research. The participants for the study were 148 faculty members who taught at least one face-to-face class during the spring semester of 2011 at a southern urban community college.

Cooperative learning brings students together to work in small groups to enhance their own learning and that of their peers. Research identifies it as a pedagogical and andragogical approach that increases the academic and social gains of students. There is limited evidence of community college faculty use of cooperative learning in educational environments, which might increase the success of students at this level. However, the diverse student population of the community college suggests that cooperative learning may be an effective teaching strategy for use at this level of higher education.

The findings revealed that only 17% of the faculty reported to use cooperative learning at least "largely" or on a regular basis in their current classes. However, the faculty reported quality in their use of cooperative learning was considerably higher, with as much as 50% at least "largely" structuring their classes to enable students to work actively together and 67 % reporting that their students at least "largely" actively participated in their learning groups, thus ensuring the key cooperative learning principle of positive interdependence. Sixty-seven percent of the faculty members also reported that students in

their cooperative learning groups at least "largely" demonstrated the cooperative learning principle of individual accountability by completing their share of work.

Faculty perceptions for this study were grouped based on cost of implementation, value of cooperative learning, and expectancy of success with the use of cooperative learning. The faculty reported high levels of perception in all perception categories. The results of the study indicated that the community college faculty members do not perceive cooperative learning as a costly instructional strategy and that they perceive cooperative learning as a valued teaching strategy. They also have high expectancy of success for its use with college students.

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Chapter 1

Introduction

Theoretical Framework

Cooperative learning is a teaching and learning strategy that is widely accepted as having positive impact on the academic achievement and social skills development of students (Johnson, Johnson, & Smith, 1998; Johnson, Johnson, & Stonne, 2000; Siegel, 2005; Yamarik, 2007). It is a teaching strategy where students work together in small usually heterogeneous groups on learning activities and where group members are not only responsible for their own learning but are also responsible for helping their teammates learn. In cooperative learning, group members work to accomplish mutual goals and to maximize individual and group members' learning (Buchs, Gilles, Dutrevis, & Butera, 2011; Dyson & Grineski, 2001; Johnson et al., 2000; Kanthan & Mills, 2007).

There is a very strong theoretical basis for the use of cooperative learning. Biggs (1999) pointed out that constructivist theory of learning requires students to help construct or build their knowledge through active participation rather than passively receiving information. Ransdell (2005) indicated that cooperative learning is grounded by constructivist concepts and that theorists such as Vygotsky and Dewey pointed to the importance of the role of students in the construction of the learning process. Cooperative learning supports constructivism as it allows the learner through learning activities to help build or construct his/her own knowledge, which is key to effective thinking and learning. Slavin (1996) indicated that many Piagetians have supported use of cooperative learning indicating that students through discussion with other students are exposed to their own inadequate reasoning and generate better understanding.

Johnson et al. (2000) in a meta–analysis study of cooperative learning identified its theoretical roots as supported by anthropology, economics, political science, psychology, and sociology. They declared cooperative learning to be one of the most fruitful areas in educational practice, theory and research (Johnson et al., 2000). These researchers indicated that cooperative learning is so pervasive in education that it is hard to locate teaching materials or textbooks on instructional strategies that do not refer to and utilize cooperative learning (Johnson et al., 2000). Johnson et al. (1998) asserted that the strength of cooperative learning lies in the linkage between research, theory, and practice. Well-developed theories promote research and practice, and cooperative learning has a very large research base that testifies to its strength and validity. Over 900 research studies support the effectiveness of cooperative learning in relationship to individual and competitive learning methods. Different researchers in various educational settings and with different age groups have conducted these studies (Johnson et al., 2000). Hanze and Berger (2006) indicated that cooperative learning research is one of the most prominent success stories in educational studies.

Documentation of the value of cooperative learning is prolific. This teaching strategy is noteworthy for improving various aspects of learning including academic achievement, critical thinking, reasoning level, and problem solving (Felder & Brent, 2007; Johnson et al., 2000; Marburger, 2005; Nagel, 2008; Siegel, 2005). Cooperative learning is also credited for improving self esteem, communication skills, motivation, self-efficacy, intergroup relationship, interpersonal attraction, social skills development, school retention, time on tasks, and enjoyment of school (Armstrong, Chang, & Brickman, 2007; Coppola,

2007; Johnson et al., 1998; Nagel, 2008). It is noted to be effective in decreasing feelings of loneliness and social anxiety and to increase perception of happiness (Kocak, 2008).

Hwang, Lui, and Tong (2005) reported that students learning in a generally passive environment when significantly outperformed others when switched to cooperative learning strategies in contrast to lecture, as measured by educators' outcome assessments at the end of the study. Many new college educators take it for granted that all learning is automatically active. However, the research suggests that cognition is an active process, and for learning to take place effectively students must actively engage through reading, discussion, problem-solving, analysis, evaluation, synthesis, and through the transformation and construction of knowledge (Kao, Lin, & Sun, 2008). Cooperative learning provides for active learning and enables students to take significant responsibility for their own learning and the learning process (Johnson et al., 1998; Kao et al., 2008).

Rationale of the Study

Although cooperative learning is well acknowledged in the field of education, it still seems that a large portion of current undergraduate training pushes more toward competitive learning rather than cooperative learning (Ahern, 2007; Johnson et al., 1998; Jones & Jones, 2008). Weimer (2008) indicated that 76% of college professors use lecture as their primary instructional strategy. When group learning is used in higher education, it rarely follows the protocol for cooperative learning such as positive interdependence and individual accountability (Colbeck, Campbell, & Bjorklund, 2000). These studies suggest that there is limited evidence of use of cooperative learning by community college faculty. However, as Hennessy and Evans (2006) indicated, the diverse student population of community colleges in areas of age, academic performance, language, and culture makes

cooperative learning essential in the community college classroom. Ethington (2000) studied retention of community college students; she found that what is meaningful for these students are engagement opportunities with each other provided by faculty in the classroom. Ethington noted that without the use of teaching strategies such as cooperative learning, there was a lack of engagement opportunities allowing students to interact positively with their classmates.

Cooperative learning in American education is traced back to the 1940s. Prior to 1970 most of the work with cooperative learning was done in college classrooms (Johnson et al., 1998). Between the 1970s and 1990s there was a shift in the use of cooperative learning, and emphasis on the use and research of this teaching method increased significantly in K - 12 grade. Cooperative learning has had a long history in higher education, but it now seems to be largely ignored by the educators of that population (Johnson et al., 1998; Kanthan & Mills, 2007; Ransdell, 2005). There appears to be a need in higher education for greater utilization of cooperative learning as a teaching strategy.

Purpose of the Study

The purpose of this study was to examine the perceptions and use of cooperative learning by community college faculty members in their face-to-face classes. The study also examined the degree to which community college faculty members who use cooperative learning understand the tenets of this teaching and learning strategy. By conducting this study, the researcher also intends to awaken the awareness of community college faculty to the use of cooperative learning and to possible faculty development needs in the area of cooperative learning.

Significance of the Study

Ethington's (2000) study of the development and retention of community college students indicated that it is not just faculty-student involvement per se that promotes student development, but also opportunities provided by faculty in their courses for interaction of students. She indicated that course activities that provide community college students active participation promote involvement and retention. She postulated that the community college classrooms should become focal points for involvement of students with their peers and faculty. She pointed to the need for curricula and teaching strategies that discourage community college students from being passive receivers of information and instead to take initiative and responsibility in their learning. Cooperative learning provides such opportunities for students to be actively involved and to assume responsibility for learning, but very little research has been done on the use of cooperative learning in community colleges.

The significance of this study is that it adds to the scholarly research on cooperative learning in community colleges. It also provides insight into the perceptions and use of cooperative learning by community college faculty members. Additionally, it provides awareness about factors that may discourage community college faculty members from using cooperative learning. This research is a valuable resource for community college administrators, faculty development professionals, and faculty members.

Research Questions

Three research questions guided the study.

1. To what extent do community college faculty members use cooperative learning in their face-to-face classes?

2. What are the perceptions of community college faculty members regarding cooperative learning?

3. To what degree do community college faculty members who use cooperative learning understand its key principles?

Definition of Terms

Cooperative learning is an instructional strategy where students work together in small groups to accomplish mutual goals and to enhance their own and the group members' learning (Abrami, Poulsen, & Chambers, 2004; Johnson et al., 2000; Kanthan & Mills, 2007).

Chapter 2

Literature Review

Components of Cooperative Learning

Cooperative Learning is not a new teaching or learning strategy for research on its effectiveness spans back to the 1800s (Armstrong et al., 2007; Johnson et al., 1998). The use of cooperative learning can be traced as far as the first century when Quintillion supported the benefits of students teaching one another (Johnson et al., 1998). Johnson et al. (2000), in their meta-analysis study on modern cooperative learning, identified that in the last three decades cooperative learning has been effectively used at all levels of education, from preschool to graduate school. It has been used in all subject areas and in traditional as well as non-traditional learning environments including non-school programs. This technique is used nationally and internationally; its widespread use includes countries such as Australia, Britain, Norway, and Israel, as well as the United States of America (Slavin, 1986).

It should be noted that cooperative learning groups are distinctly different from other groups used by educators. These learning groups are generally heterogeneous in nature and specific responsibilities are expected of group members. Cooperative learning groups are required to include up to five specific and largely interrelated elements. These are positive interdependence, individual accountability, face-to-face productive interaction, use of social and collaborative skills, and group processing (Ahern, 2007; Baumberger-Henry, 2005; Felder & Brent, 2001; Hanson & Carpenter, 2011; Johnson & Johnson, 1999; Johnson et al., 1998; Kanthan & Mills, 2007; Nagel, 2008). Researchers suggest that for a teaching technique to be truly cooperative, it must be structured to allow group members to

perform these five basic elements of cooperative learning (Felder & Brent, 2007; Johnson & Johnson, 1999; Kanthan & Mills, 2007).

Positive interdependence. Members of cooperative learning groups are required, by virtue of their learning tasks, to be linked together in such a way that one cannot obtain maximum benefit unless all benefit. Group members work collaboratively to learn from each other, promote one another's success, and share in the group's success. Positive interdependence produces a positive relationship among group members that motivates them towards mutual success. Thus, each group member is expected to learn the required material and to ensure that all group members do the same. Positive interdependence gives students a vested interest to work together to overcome challenges and accomplish goals that would be difficult to accomplish as individuals. It must be noted that positive interdependence is significantly affected by the task to be completed. If an individual can effectively and efficiently complete the group assignment alone, then it is not an appropriate cooperative learning assignment (Ahles & Contento, 2006; Carroll & Williams, 2007; Millis, 2009). Positive interdependence supports the concept of all-for-one and one-for-all.

Four techniques are used to ensure positive interdependence. They are goal interdependence, resource interdependence, role interdependence, and reward interdependence (Colbeck et al., 2000; Johnson & Johnson, 1999; Johnson et al., 2000). Goal interdependence is accomplished by establishing mutual learning goals. Group members understand that individual goals are met only when all members meet their goals. The technique of resource interdependence requires group members to rely on each other for appropriate recourses. Here, each group member may be given only part of the

information or resources needed to complete a task and is required to work with the others, sharing information and resources, in order to complete the assignment.

Another way to achieve positive interdependence is to have different roles for group members. This is role interdependence and may include roles such as leader, reader, recorder, checker, and elaborator. These roles may be assigned to specific group members, or each member may take a turn performing them. Roles provide specific responsibility for group members and require each to fulfill a task for the smooth operation of the group. Group roles should provide for group maintenance, observation of group process and interaction, and feedback to group members. Group reward or reward interdependence is also used to ensure positive interdependence among group members. This is of importance especially when group members are working on routine tasks and it is essential to stimulate their interaction. Group reward may be in the form of a group grade or extra points based on group performance (Buchs et al., 2011; Johnson & Johnson, 1999).

Individual accountability. Individual accountability promotes personal responsibility for work performed. Each group member is expected to contribute to the material to be learned and is responsible for ensuring the success of the group by performing his or her share of the work. Educators may provide for individual accountability through individual examinations, a random selection of a group member's work to represent the entire group, student explanations of what he or she has learned to the group or other classmates, peer and self assessment, and teacher observation (Johnson & Johnson, 1999). The objective of individual accountability is for students to work together so they can perform better individually (Johnson et al., 1998; Kanthan & Mills, 2007).

Face-to-face promotive interaction. Face-to-face promotive interaction is another of the essential elements of cooperative learning that encourages group members to interact while working. Although group members may do some of the work individually, there must be group discussions with group members interacting to promote each other's learning. This involves positively challenging one another's reasoning, questioning for critical thinking, encouraging one another, providing feedback, making suggestions, and providing clarification (Felder & Brent, 2007; Johnson & Johnson, 1999). Group size is also an important element in face-to-face promotive interaction. Two to four group members are recommended to ensure positive balance (Johnson & Johnson, 1999).

Social and collaborative skills. The use of social and collaborative skills by group members is another essential element in cooperative learning. Not all group learning is necessarily cooperative. College students sometimes react negatively to working in groups because they do not have the necessary group skills and they are put in groups without the help needed to enable the group to function (Jones & Jones, 2008). For cooperative learning to work effectively, a climate of cooperation must be engendered by appropriate social and collaborative skills. Even at the college level, it is important to provide activities that allow for the development and practice of interpersonal skills needed for group functioning. Group members should be helped to develop skills in leadership, conflict-management, team building, trust building, communication, interpersonal relations, and decision-making (Ahern, 2007; Colbeck et al., 2000; Felder & Brent, 2007; Johnson & Johnson, 1999; Kanthan & Mills, 2007). Colbeck et al. (2000) indicated that "without specific guidance from instructors about how to share leadership and process management

roles among group members, students with high motivation levels become leaders and those with low motivation levels become slackers" (p.78).

Group processing. Finally, students should regularly participate in group rocessing where they reflect on and discuss how the group functions and provide feedback to each other. Written feedback provided to the instructor may be essential for evaluation. Ransdell (2005) pointed out that college students may have concerns about other students' performance affecting their grades, but group process allows group members to share confidentially concerns with instructors through a structured format. It is important that group members be allowed time to focus on group skills and to look at what works for the group and what does not. They should be encouraged to reflect on their contributions and discuss what group members are doing that is helpful and what is not. They should identify problems that are hindering the group from working together effectively and bring about resolution (Ahern, 2007; Felder & Brent, 2007; Johnson & Johnson, 1999; Kanthan & Mills, 2007). Johnson et al. (1998) detailed four ways in which group members may use group process for continuous improvement:

1. Be sure that all members of the group have attained the learning goals and identify what group members' actions are helpful and not helpful in the group learning process.

2. Make decisions to streamline the learning process to make it more efficient and eliminate what is not working effectively.

3. Discuss ways to provide for continuous improvement of technical skills.

4. Celebrate team members' hard work and the team success.

How Cooperative Learning Works

Ahles and Contento (2006) postulated that how things work or the reason for certain outcomes is related to attribution theory. These researchers highlighted the works of Fritz Heider, attribution theorist, who suggested that behaviors are affected by what goes on within a person and what goes on within the person's environment. Thus, many variables contribute to cooperative learning effectiveness. One such variable is social interdependence.

Social interdependence. The dynamics of cooperative learning are based on the positive interdependence of group members, which is supported by the psychosocial interdependence theory (Johnson et al., 1998). The positive interdependence of group members is that which pushes the group toward a common goal and stimulates the learning process and the learning of group members. Johnson et al. (1998) suggested that the way social interdependence is organized in the cooperative learning process affects the dynamics of the group, individuals' interaction, and learning outcomes. Positive interdependence promotes cooperation, interaction, and active learning. Negative interdependence lends to competition and oppositional behaviors. Absence of interdependence results in no interaction and promotes a passive climate. Positive interdependence is an essential element contributing to how cooperative learning works. Cooperative learning, through the use of positive interdependence, subscribes to the understanding that each individual's success is intricately tied to the success of all (Johnson et al., 2000; Kanthan & Mills, 2007). Johnson et al., (1998) indicated that the cooperative learning group works as a dynamic whole "in which a change in the state of any member or subgroup changes the state of other members or subgroups" (p.88). Social interdependence

theory links the success of cooperative learning to an intrinsic motivation based on desire for personal or group goal achievement and interpersonal satisfaction (Johnson et al., 1998).

Constructivism. Another important variable that contributes to the effectiveness of cooperative learning is constructivism. Ransdell (2005) indicated that cooperative learning is grounded in constructivism as it provides opportunities for learners to construct and help build their learning and knowledge. The cooperative learning process allows the learner to learn through active participation. Biggs (1999) supported the concept that active participation is essential to thinking and learning, and that constructivism allows students to construct their own knowledge through active learning experiences. Felder and Brent (2007) also supported the effect of interaction and participation in the workings and benefits of cooperative learning.

Cognitive development. Johnson et al. (1998) linked cooperative learning to the cognitive-developmental theory, which views cooperation as a key ingredient in the enhancement of cognitive growth. "Jean Piaget taught that when individuals co-operate on the environment, healthy socio-cognitive conflict occurs that creates cognitive disequilibrium, which in turn stimulates perspective-taking ability and cognitive development" (Johnson et al., 1998, p. 29). The works of Vygotsky highlighted how cooperative learning engages coaching, modeling, and scaffolding to promote understanding (Johnson et al., 1998).

Coppola (2007) and Gillies (2003) suggested that cooperative learning is effective because it engages students in multiple learning activities. Students in cooperative learning groups verbally share and provide explanations of information, clarify concepts, produce

computations, create products, problem solve, and generate new ideas. This sharing, discussing, and elaborating of ideas deepen understanding and improve critical thinking. These activities provide for cognitive reconstruction of information. The process of cognitive reconstruction through cooperative learning allows students to examine their understanding of concepts, fill in possible gaps, provide explanations, and learn instructional material more effectively than they would individually (Gillies, 2003).

Helping behavior and motivation. Gillies (2003) indicated that students' behaviors of giving and receiving help in cooperative learning promote feelings of self-efficacy. These helping behaviors enhance motivation to perform academically and to take leadership roles. Students in giving and receiving help develop unity through teamwork and become mutually responsible for one another's learning (Gillies, 2003).

Motivation theory is used to explain how cooperative learning works (Hanze & Berger, 2006; Johnson et al., 1998; Slavin, 1996). Slavin (1986) postulated that learning is work and the degree to which a person applies him/herself to work is a function of his/her motivation. Students who are not internally motivated require an extrinsic reward. Cooperative learning can provide for positive rewards by group members as well as instructors. Traditional learning methods often encourage students to compete with each other. The opposite is true of cooperative learning (Johnson & Johnson, 1999).

Hanze and Berger (2006) reported that the cooperative learning method promotes positive self-concept and that students with low academic self-concepts benefit more from cooperative learning than form direct instructional method. They suggested that cooperative learning subscribes to the basic needs theory of self-determination and promotes intrinsic motivation because it fulfills the need for social relatedness, positive

self-esteem, and autonomy. Tied to motivation theory and the success of cooperative learning is behavioral learning theory and the concept of positive reinforcement. Students will expend more energy on tasks for which they are rewarded. Cooperative learning is, therefore, often structured to provide rewards for both individual and group efforts (Johnson et al., 1998).

Communication and social skills. Another way in which cooperative learning benefits students is to enhance their communication skills and positive social behaviors. Research studies have demonstrated that students in cooperative learning groups, as compared with students in traditional classroom settings, have more effectively problem solved, taken turns, shared, managed conflict, initiated and defended choices, cooperated, and produced win-win solutions (Coppola, 2007; Nagel, 2008). Gillies (2003) also indicated that the social skills of teachers are enhanced by their use of cooperative learning in the classroom. When using cooperative learning, teachers tend to ask more questions of their students, interact more with students, and are more caring and friendly in their behaviors (Gillies, 2003). Hence, cooperative learning helps educators to model what they teach.

Bruffee (1984) reported that to better understand the collaborative process (which is an important part of cooperative learning) and to experience its maximum effect, one has to understand the nature of knowledge. He stated that education is training in the skills of conversation. Conversation takes place within people as well as among people. Conversation that occurs within is called reflective thought. Conversation among people is regarded as social or public conversation. Cooperative learning provides opportunity for students to participate in social discourse or social conversation. It provides the social

context for students to gain experience and practice the kind of conversation that teachers value. It encourages active verbal communication, which is often discouraged in the classroom. Cooperative learning activities provide students the opportunity to talk to one another and improve their understanding of the subject through their development of verbal descriptions of concepts and processes. This exchange of information helps to develop students' reasoning strategies and general communication skills (Baghcheghi, Koohestani, & Rezaei, 2011; Meng, 2010).

Group processing. Cooperative learning provides opportunity for reflective thought through group process evaluation. Participants are expected to reflect and discuss the group process, how it works for them, how to improve it, and to share their ideas with the group members. However, Kao et al. (2008) cautioned that shared information used in cooperative learning cannot be equated to shared understanding. Shared information needs to be followed by discussion to enhance shared understanding and meaning. To facilitate shared understanding, cooperative learning needs to promote discussions of the learning process (Kao et al., 2008).

Autonomy. It is suggested that cooperative learning works because the cooperative process gives autonomy to students (Glasser, 1986; Hanze & Berger, 2006). Millis (2009) argued that a sense of control and ownership is at the core of learning. She indicated that cooperative learning promotes intrinsic motivation and that this motivation is tied to feelings of control and choice in the learning process (Millis, 2009). Coppola (2007) related that cooperative learning provides students with a sense of control over their learning, which promotes self-determination, motivation, and high achievement. It allows students to share experiences and direct their learning process. By providing opportunities to

experience success, it helps students visualize future successes. Willis (2007) suggested that when students collaborate in a cooperative learning environment, they become more vested in their learning.

Controversy. Controversy theory purposes that when students are presented with opposing views, conflict occurs in their conceptualization of information. This pushes the students to examine and clarify their own views, concepts, ideas, thoughts, and positions (Johnson et al., 1998). Conceptual conflict also allows students to refute opposing views, carry out rebuttals, and create synthesis (Johnson et al., 1998; Ransdell, 2005). Nagel (2008) emphasized that cooperative learning must be intellectually challenging and creative and must utilize higher order critical thinking skills.

Group - to - individual transfer. Yager, Johnson, and Johnson (1985) indicated that positive effects of cooperative learning are linked to group-to-individual transfer. Johnson and Johnson (1999) also promoted the importance of group-to-individual transfer in the workings of cooperative learning. Other researchers (Johnson et al., 1998; Willis, 2007) have supported the idea that cooperative learning lends to the transfer of information into the memory through group-to-individual transfer. The cognitive process involved in cooperative learning has students rehearsing with each other to promote an understanding and restructuring of information, which in turn promotes the transfer of material from group to individual and from short-term to long-term memory (Brandt, 1987; Johnson et al., 1998; Willis 2007).

Structure of cooperative group. How well cooperative learning groups work is said to depend on how the groups are structured. Simply putting students together does not necessarily yield positive learning results. To understand how cooperative learning works

one must understand the basic elements of cooperative learning, the cooperative structure that is needed, and the issues involved in the cooperative learning process (Colbeck et al., 2000; Johnson & Johnson, 1999; Kanthan & Mills, 2007). The five basic elements of cooperative learning (positive interdependence, individual accountability, face to face promotive interaction, social and collaborative skills, and group process) are considered essential for the effective working of the cooperative learning process (Felder & Brent, 2007; Johnson & Johnson, 1999; Johnson et al., 2000).

Yamarik (2007) also highlighted four group-structuring tasks that teachers using cooperative learning must perform for cooperative learning to work effectively. These tasks are pre-instructional decisions and preparation, explanations of group tasks to group members, providing for positive interdependence among group members, group monitoring and assistance, and assessment of students' learning. Other researchers also have supported the conclusion that the effectiveness of cooperative learning is positively linked to these roles played by teachers (Coppola, 2007; Kocak, 2008; Nagel, 2008).

In order to have effectively working cooperative groups, instructors need to make decisions concerning learning objectives, how groups are formed, group size, group assignments, and roles of group members. Group size is an important factor in pre-instruction decisions. The smaller the group the greater is an individual's accountability, as students have less opportunity to avoid participation or to freeload. Group size of two to four persons is frequently recommended. Heterogeneous or mixed grouping in terms of variables such as academic levels, race, or culture is also recommended for effective cooperative learning groups (Nagel, 2008). Instructors of cooperative learning groups must also explain the cooperative process to students. The cooperative tasks should be fully

explained and students' and teachers' roles and tasks fully identified. The concept of positive interdependence is often new to students and must be thoroughly discussed (Coppola, 2007; Johnson & Johnson, 1999; Yamarik, 2007).

The greatest pitfall of cooperative learning, and the chief reason these learning groups do not always achieve their goal, is that students do not know how to work cooperatively. It is, therefore, essential that instructors at all educational levels discuss appropriate collaboration skills. Placing students in groups and requiring them to work together do not necessarily result in cooperation or collaboration and certainly do not produce the positive gains in achievement and social outcomes that cooperative learning boasts. Students who are not motivated to work or are not sure of their ability may simply take a free ride and leave the work up to the other members of the group. Hitchhiking behaviors may cause high producing students to decrease their efforts to avoid being used. High ability students may also dominate the group to their benefit and at the expense of other students (Johnson & Johnson, 1999; Johnson et al., 2000).

The cooperative group process will not be effective, however, unless students' learning is monitored. Instructors are required to assist group members as needed and to monitor and systematically observe group processes and group skills. Students must be monitored and helped to focus on the tasks that they are expected to perform in the classroom instead of on the roles (teacher-student) they are supposed to perform. Finally, instructors of cooperative learning groups must provide assessment of students' learning. Assessment must provide for individual accountability as well as promote positive

interdependence among group members. Instructors are also needed to guide students in processing and assessing the effectiveness of the group process (Johnson & Johnson, 1999).

Cooperative Learning in Higher Education

Despite the enormous body of research supporting the positive effect of cooperative learning at all levels of education, this teaching methodology is generally underutilized in higher education (Jones & Jones, 2008; Kanthan & Mills, 2007; Kocak, 2008). Weimer (2008) indicated that 76% of college professors reported using lecture as their primary teaching method. Regardless of the popularity of the lecture method, however, research indicates that cooperative learning produces higher academic achievement and greater psychological well-being in students at all levels of education (Kanthan & Mills, 2007). Johnson et al. (1998) pointed out that misconceptions surrounding achievement through individual genius in contrast to cooperative work is intrinsic to the American culture; as a result, college educators often ignore the positive effects of cooperative learning.

Roots of cooperative learning in the college classroom. The roots of cooperative learning in college classes are linked to behavior learning, social interdependence, and cognitive-developmental theories (Johnson et al., 1998). These theories emphasize the importance of positive interdependence, the dynamic whole, scaffolding, rehearsal, repetition, reconceptualization, and rewards, all of which are important aspects of the cooperative learning process. Cooperative learning in American classrooms can be traced back to the 1940s with Deutsch's work (Johnson et al., 1998). Prior to 1970 most of the work with cooperative learning was linked to the college classroom. In the period between the 1970s and 1990s, K – 12 grade educators began exploring the use of cooperative

learning and significantly increased the use and the research of this teaching and learning method. Since the 1990s the use of cooperative learning in higher education has been rekindled (Johnson et al., 1998). This teaching and learning method is, however, still underutilized in the college classroom (Jones & Jones, 2008; Kanthan & Mills, 2007).

Johnson et al. (1998) reported 305 studies comparing the effectiveness of individualistic, competitive, and cooperative learning on college students and adult learners. Sixty-eight percent of those studies were conducted after 1970. The researchers reported on 168 studies conducted between 1924 and 1997 that examined the efficacy of cooperative learning on achievement of students 18 years and older. The studies demonstrated that cooperative learning promotes higher academic achievement than competitive learning methods (effect size 0.49) or individualistic learning (effect size 0.53) for the population of students studied (Johnson et al., 1998). A meta-analysis of studies that examined the effects of cooperative learning with college students studying science, technology, engineering, and mathematics (STEM) related significant positive gains in achievement, attitude, and persistence (Armstrong et al., 2007).

Current use of cooperative learning in colleges. Jones and Jones (2008) denoted that higher education over the past 20 years has experienced an increase in the use of cooperative learning and that most college professors now report use of some structured form of group learning in at least one of their classes. It must be noted, however, that all group learning is not cooperative learning as cooperative learning is bounded by specific principles such as individual accountability and positive interdependence. In discussing the positive effect of cooperative learning with college students, Jones and Jones (2008)

highlighted a study utilizing undergraduate engineering students from six different institutions in which cooperative learning produced statistically significant gains in the students' learning over that produced by traditional instruction.

Marburger (2005) used cooperative learning in undergraduate microeconomics classes to investigate its effects versus lecture on the performance of students. In this research, cooperative learning was not used to supplement traditional lecture as with previous studies, but cooperative learning replaced the traditional lecture method. The study revealed that the students who were taught using the cooperative learning method were able to use higher levels of economic reasoning than students taught by lecture. This research study suggested that cooperative learning promotes deep learning, which enables students to integrate and apply information learned to real life situations.

Cooperative learning was also used with undergraduate students to investigate the effect on achievement and attitude towards instruction (George, 1999). The achievement of students was measured by the use of final exam scores, and a standardized student attitude evaluation was used to measure attitude towards instruction. The final exam result indicated that students using cooperative learning performed significantly higher than students using traditional teaching methods, $t(59) = -2.644$, $p<0.01$. These students also scored the cooperative instructional method more positively.

Armstrong et al. (2007) also did an investigation of the use of cooperative learning on the achievement and attitude of higher education students. This study utilized a large undergraduate class with enrollment greater than 250. The research indicated that students who were taught using cooperative learning method demonstrated greater improvement on

knowledge of course material, and their attitude toward the learning environment was more positive than students taught using a lecture format.

Baumberger-Henry (2005) examined the effects of cooperative learning used with case study on the self-perception of undergraduate nursing students in regard to their decision-making and problem-solving skills. One hundred and twenty-three students from three colleges enrolled in associate degree nursing programs participated in the study. The results of this study indicated that students taught using cooperative learning and case studies had achieved more improvement in problem solving and decision-making skills than students from three comparison groups using more traditional teaching methods including lecture. The improvement, however, was not statistically significant.

A college professor, Dinan (2006), shared his experience with cooperative learning in an organic chemistry class. After gathering information from his experiences with cooperative learning, Dinan suggested that success of cooperative learning is intrinsically tied to the buy-in students have with the use of this teaching method. He, therefore, suggested that what happens during the first days of a class in which cooperative learning will be used should inspire students to work cooperatively, build open communication, and develop feelings of trust.

Yamarik (2007) using 116 undergraduate macroeconomics students conducted another research study using cooperative learning in higher education. He investigated the impact of cooperative learning versus traditional lecture on the interest, of students participation, preparation, attendance, and performance of students. Interest, participation, and preparation data were collected through a pre and post experiment questionnaire. Attendance was based on the percentage of classes attended and performance was based on

scores from midterm and final examinations. The outcome showed that students in the cooperative learning formats scored four to six times higher on the combined midterm and final exam. The study did not show a significant impact with the use of cooperative learning on interest, participation, preparation, and attendance.

Brawer, Klein, and Mann (2003) investigated the effect of cooperative learning versus individual learning on the achievement and attitude of re-entry adult college students. The study showed no significant difference in the achievement data of the students but students who worked in the cooperative learning groups demonstrated significant difference in their attitude. Students in the cooperative learning group reported greater confidence ($M = 3.68$) versus those in the individual learning condition ($M = 3.30$, $f\,(1,108) = 4.74$, $p < .05$). Students from the cooperative learning group also reported higher continuing motivation, ($M = 3.68$) versus those who worked individually ($M = 2.91$, $f\,(1,108) = 9.43$, $p < .01$).

Other research studies such as Dikici and Yavuzer (2006) and Kocak (2008) also demonstrated positive effects of cooperative learning with higher education students. Kocak (2008) examined the effects of cooperative learning on certain psychological and social traits of university students. The study included 114 students enrolled in a university psychology course and a fundamental math course. The results demonstrated that the use of cooperative learning had positive effects on the reduction of loneliness and social anxiety and in raising the levels of happiness of these students. Evidence came from pre and post-test scores on the University of California-Los Angeles Loneliness Scale, the Liebowitz Social Anxiety Scale, and the Forelyce Happiness Scale. Cooperative learning, however, did not have any impact on the self-monitoring skills of the students.

Dikici and Yavuzer (2006) examined the effect of cooperative learning strategies on

the lesson planning performance of pre-service art teachers in training. The study included 64 art teacher candidates; 32 of these students were included in the cooperative learning group and 32 in a lecture control group. The study used an evaluation rubric to evaluate the lesson plans of the students in a pre and post-test process. The research demonstrated that when compared to lecture method, cooperative learning strategies significantly improved the lesson planning skills of the students.

Benefits of cooperative learning for higher education. Reports on higher education suggest that there is still hesitation to integrate cooperative learning into college classrooms because of the misunderstanding that the use of cooperative learning is an all or nothing situation (Jones & Jones, 2008). Many college professors view cooperative learning as an alternative to lecture instead of an enhancement; thus, they avoid its use. Higher education can, however, gain from cooperative learning strategies that promote academic and social benefits (Johnson, Johnson, & Smith, 2007; Jones & Jones, 2008).

Academic benefits of cooperative learning in higher education are well documented. Hundreds of research studies have indicated that students in higher education experience greater learning gains, such as increased critical skills, higher academic achievement, and greater retention of learning material, when taught using cooperative learning rather than when taught using more traditional teaching methods (Johnson et al., 2007; Jones & Jones, 2008).

Adult learners typically are self-directed, like to make use of their experience, and like to participate actively in the learning process (Hohler, 2003). Cooperative learning provides an environment that is conducive to these characteristics. It is reported, however, that in a typical college lecture class the faculty member talks about 80% of the time. This

leaves about 30 seconds of speaking time per students in a traditional college one-hour class. Since active participation promotes greater academic achievement, cooperative learning enhances the learning of students because it provides opportunities for students to learn by doing and collaborating with peers (Jones & Jones, 2008).

Social skills benefits are also a hallmark of cooperative learning. Employers increasingly have reported disappointment with the performance of higher education graduates in regards to team-based communication skills (Depaz & Moni, 2008). It is reported that 80% of employees in America are required to work in teams (Attle & Baker, 2007). It is, therefore, important that higher education classes provide students with the teamwork skills needed for the workplace. Cooperative learning teams promote adaptability and interpersonal relationship skills that aide in the transition of students from college to the work-world. It also teaches students work skills of effective communication, goal setting, problem identification and problem solving (Attle & Baker, 2007).

The U.S. Department of Labor in 1991 conducted a survey to ascertain the kinds of employment skills needed most by employers. Besides technical skills and general intelligence, the skills most identified were communication, initiative, and interpersonal skills (Jones & Jones, 2008). Students are therefore required to have more than strong academic skills to be productive employees. Higher education must also provide them with the appropriate social skills, an important benefit of cooperative learning (Johnson et al., 2007; Jones & Jones, 2008).

Cooperative Learning Structures Used in Higher Education

Many structures or models of cooperative learning have been identified and used in higher education classrooms. These range from very simple to very complex operations.

Some of the cooperative learning structures used in higher education are Student Team Achievement Division (STAD), Team Games Tournament (TGT), Group Investigation (GI), Jigsaw, Learning Together, Reciprocal Peer Tutoring (RPT), Guided-Peer-Questioning, and Think-Pair-Share, and Academic Controversy (Berry, 2008; Johnson & Johnson, 1999; Jones & Jones, 2008).

Student teams achievement division (STAD). The cooperative learning structure, STAD may be utilized with most students at all academic levels. For this approach, students are usually assigned to four-member heterogeneous team. The instructor using this approach presents the lesson in a format with which he/she is comfortable; then the students divide into teams. The students may work in their four-member teams or may subdivide into pairs. In these groups, students discuss concepts, discrepancies, and approaches to solving problems, and assess the strengths and weaknesses of team members to ensure that each member learns the material (Berry, 2008). The students use the STAD structure teams to learn the material and do assignments but take their tests and quizzes on an individual basis. Students' test scores are compared with their own past performance, and team points are earned when students meet or exceed their own past averages. Special rewards are also provided to the teams based on their performance. Individual accountability motivates students to do their best and to tutor and explain to each other as team success depends on the success of each member (Berry, 2008).

Teams - games - tournament. Teams - Games - Tournament (TGT) is very similar to STAD except that the students participate in tournaments. With TGT the teacher presents the lesson, the students work in teams, and then there are tournaments. During these tournaments, students compete with students of the other teams to gain team scores.

Tournament groups have competitors of similar performance levels. High achievers complete with high achievers, and average and low achievers complete with the respective competitors. The winner from each tournament contributes points to his or her team. Each winner contributes the same amount of points. Teammates help each other prepare for the tournaments but the tournaments demand individual accountability (Johnson & Johnson, 1999).

Group investigation. The Group Investigation model G-I was developed at the University of Tel Aviv by Shlomo Sharon. In using this method, students form their own two to six member teams based on their interest in a common topic to be researched. Using material that is being studied by the class, the group assigns individual tasks to its members to research and prepare a group report. Team members work together to plan how to research the topic, and then each member carries out his or her investigation and a final product is produced by the team. Each team then makes a presentation of its work to the entire class (Johnson & Johnson, 1999; Slavin, 1991).

Jigsaw. The Jigsaw model (Jigsaw I) was developed by Elliot Aronson and colleagues, working first at University of Texas and then at the University of California. In Jigsaw I students work in three to six member teams, referred to as home teams. Each member of the home team works on an assigned section of the material to be learned. All students are responsible for reading all of the material, but each team member is given an area on which to become an "expert." Members of the various home teams assigned to the same section of material form "expert groups." The expert group members meet and discuss the material covered in their section. Members of the expert groups then return to their home teams and teach team members the material covered in their assigned section.

Quizzes and tests are taken individually (Hanze & Berger, 2006; Lin, 2006; Mandal, 2009; Slavin, 1986).

There have been different variations of the Jigsaw structure appropriate for college classrooms, namely, Jigsaw II and Revised Jigsaw. Jigsaw II includes competition among home groups and reward based on improvements on group members' test scores (Hedeen, 2003). Students with the same area or topic meet in expert groups to discuss and share information as in Jigsaw I. They then return to their home groups and teach team members what they have learned from the expert group. Individual quizzes and tests are taken, and team scores and rewards are arrived at based on the improvement score method as used in STAD (Hedeen, 2003).

Reverse Jigsaw is similar to Jigsaw I in using the home and expert group format. It is, however, different from the original Jigsaw in its use of the home and expert group and in its learning goals. The original Jigsaw is designed to promote students' comprehension of material presented by the instructor; the Reverse Jigsaw is intended to facilitate participants' interpretation, judgment and perception on various topics (Hedeen, 2003). In the Reverse Jigsaw students meet in their home groups where each student is given a case study, a question, or a topic to explore with group members. Each student is allowed time to facilitate a discussion of his or her case, topic, or question taking written notes of the important points of the discussion. Students then move to expert groups where students from different home groups with the same case study, topic, or question participate in further discussion and exploration of the material. They share the highlights from their home groups, gather further clarifications, and note highlights from expert group members.

The expert groups prepare one final report indentifying their conclusion. A reporter is selected from each expert group to present to the entire class (Hedeen, 2003).

Learning together. David and Roger Johnson at the University of Minnesota developed the Learning Together model. Utilizing this method, students work in four or five-member teams on assignment. The group as a whole is responsible for the assignment and is rewarded based on the group product (Slavin, 1991).

Reciprocal peer tutoring. Reciprocal Peer Tutoring (RPT) is a cooperative learning structure where students work in dyads or small groups to teach each other, alternating the role of student and teacher. Group rewards are presented based on group performance (O'Donnell, 2002).

Guided peer questioning. Guided Peer Questioning emphasizes the construction of knowledge by promoting higher-order thinking. With this cooperative structure, the instructor provides students peers or small groups with question starters to guide them in a question and answer process. The students use the question starters to formulate questions that they ask each other. They take turns asking and answering these questions. The question starters help the students to construct high-order, open-ended, critical thinking questions. The question starters also provide scaffolding for the students' questions, answers, and thinking. Guided peer questions provide self-monitoring as students explore their understanding of the material to ask and answer questions (O'Donnell, 2002).

Think-pair-share. Think-Pair-Share cooperative structure involves a three-step process. In the first step, the students think quietly about an assignment given by the instructor. The assignment may be a question to answer, a problem to solve, or a concept to explore. In the second step, the students form pairs and share their answer to the

assignment with each other. Each student takes turn to share while the other actively listens. The listener is only allowed to make supporting remarks but does not share any of his or her own thoughts or ideas. After each student has shared, students may make corrections or add points to their previous answer from information gained in the sharing process. In the third step, students share with other pairs, teams, or the entire class (Lin, 2006; Mandal, 2009).

There are many structures of cooperative learning that are presently in use. This study identified some of the more popular ones that are used in higher education. It is important to note that cooperative learning is not bound by these or any similar structures, but the knowledge and use of these structures can provide guidance for new users of cooperative learning.

The Community College

The community college in the United States is defined as, "a regionally accredited institution of higher education that offers the associate degree as its highest degree" (Vaughan, 2000 p. 2). Community colleges are two-year colleges created with designs borrowed from four-year colleges and universities, private junior colleges, and public high schools (Vaughan, 2000). Though the design for United States community college is based on characteristics from different educational institutions, the community college has developed its own identity. Its identity is marked by a two-fold purpose of preparing students to transfer to four-year colleges and universities and preparing students for the workforce (Cohen & Brawer, 2003; Vaughan, 2000).

History of community colleges in the United States. The history of community colleges in the United States dates back to the early 1900s (Cohen & Brawer, 2003;

Vaughan, 2000). Vaughn (2000) reported statistics from the National Center for Education Statistics and American Association of Community Colleges identifying the existence of eight independently operated community colleges in the United States in 1900. In 1995 there were 74 community colleges with 55 independently operated and 19 publicly operated (Vaughan, 2000). Today, community colleges are located in every state and enroll about 50% of America college freshmen students (Cohen & Brawer, 2003).

Several factors influenced the emergence of community colleges in the United States. These factors include the rapid increase in high school population and the expansion of public high schools, public demands for reform in higher education, demand for a ready supply of trained workers by the business community, the GI Bill, which provided college funding for veterans and their children, federal student aid, and the civil rights movement, including the endorsement of the rights of women (Cohen & Brawer, 2003; Vaughan, 2000).

The push of community leaders for the growth of community colleges has also been documented through newspaper reports, state surveys, and community histories (Cohen & Brawer, 2003). As local institutions contributing to community development and civic pride, these strongly supported by community leaders. The emergence of community colleges gave opportunity for further community development. Community colleges provided the opportunities for school superintendents to become college presidents and high school teachers to become college professors (Cohen & Brawer, 2003). They also provided a more educated workforce for local communities. Ninety four percent of community college students live in the state where their college is located, and 96% of them are commuter students (Cohen & Brawer, 2003).

The roles of community colleges in the United States. The roles of community colleges have not changed since the inception of these colleges in the early nineteenth century. These roles include preparation of students for the workforce, academic transfer, technical/vocational training, basic skills/developmental education, continuing education and community service work (Cohen & Brawer, 2003).

The mission of the community college in the United States is defined as that of providing opportunity, access, and success to students (Dyer, 1991). However, the way the various community colleges carry out their mission may be different in terms of where they place their mission emphasis. Some may emphasize college and university transfer programs, while others may emphasize technical skills training. Whatever the mission emphasis, it is multifaceted in providing open access and equity for students, being community based, putting emphasis on teaching and learning, and promoting life-long learning (Vaughan, 2000). Community colleges have been at the center of access to higher education since their inception. Embedded in the mission of the community college is a commitment to open access through its admission policies and a commitment to equal treatment of students (Vaughan, 2000). Access to community colleges is promoted through low tuition rate, reduction of barriers for higher education for underserved populations, comprehension in course offerings, flexibility of course scheduling, opportunities for students to obtain needed college course prerequisites, and the community-based location of the institutions (Vaughan, 2000)

Community college faculty. Carducci (2002) reported that community college faculty members constitute 31% of higher education educators in the United States, and that they teach 39% of students in higher education and 46% of higher education first year

students. Community college faculty do not have research responsibilities and are, therefore, expected to focus on teaching (Bundy, 2000; Twombly, 2001; Warren, 2006). Research by Payne, Herndon, McWaine, and Major (2002) found that community college faculty spend more time on teaching and teaching related responsibilities than faculty members do at four year colleges and universities. Full-time faculty members are however, required to participate in activities of self-governance and service to the college such as serving on the colleges' academic and faculty senate committees (Dongblin, Twombly, & Wolf-Wendel, 2008). Most community college faculty members have a Master's degree or equivalent in the areas they teach. They teach one to two classes per week as part-time instructors and four to five classes per week as full-time faculty members. Many community college faculty, both full-time and part-time, also maintain other jobs in conjunction with the community college teaching (Cohen & Brawer, 2003).

Community college faculty members are allowed significant control over how they teach. This control, especially among part-time faculty, may affect their quality of teaching (Dongblin et al., 2008; Twombly, 2001). It is also noted that community college educators, as most educators in higher education, are not required to have formal training in teaching or teaching methods. It is also common practice for community colleges to hire faculty, especially part-time faculty, from the business industry. Along with having no formal training in educational teaching methods, these individuals often have no prior teaching experience (Twombly & Townsend, 2008).

Community colleges are noted also for employing a large percent of part-time faculty. According to Schuetz (2008), part-time faculty members account for about two-thirds of the community college teaching staff. Benjamin (2002) argued that the high

reliance on part-time faculty at community colleges may negatively affect the learning of the students. However, it must be noted, as highlighted by Dever and Templin (1994), that community college educators are typically open to the use of different teaching strategies.

To enhance the teaching skills of faculty members, many community colleges have established in-service training programs. These include workshops or short courses offered by the institutions or institutional consortia and in-house mentoring by senior faculty members. Tuition reimbursement programs are also provided, so faculty members can obtain further university-based training (Cohen & Brawer, 2003). It is important to note that in an investigation of instructional strategies used by community college faculty, 88% of the faculty (full and part time) reported the use of lecture/discussion (Carducci, 2002).

Community college students. Community college student body shows significant diversity in areas of demographics and academic preparation. Due to their open door policy, community colleges typically seem to attract the bottom half, academically and socioeconomically, of high school graduating classes. They also attract a large percentage of adults returning to college (Cohen & Brawer, 2003).

There is also a high percentage of part-time students among the community college student population. This may be attributed to women and adults in general returning to college and also to the number of students who are combining work and school due to family obligations (Cohen & Brawer, 2003; Huber, 1998). Furthermore, community college students appear to be more grade oriented than learning oriented (Huber, 1998). It must be noted, however, that the community college is reported to enroll around thirty-nine to forty percent of the student population of American colleges and universities (Carducci, 2002; Pascarella & Terenzini, 1991).

One major concern about students at the community college is their persistence rate. While community colleges provide access to a number of students who might not otherwise enter college, a large number of these students do not persist in college. They do not complete a credential or transfer to 4-year colleges or universities. Research suggests that only about 50 – 60% of students who enter the community college to earn a credential or transfer to a 4-year institution do so within an eight-year period after entering college (Hoachlander, Sikora, & Horn, 2003). However, Pascarella, Smart, and Ethington (1986) highlighted the fact that community college stopout behavior can be confused with dropout. That is, students may stop attending college for a while and then return, and such behaviors may be considered as non-persistence when in fact the students have persisted because they returned to college. Transferring to other institutions, if not traced over a significant time period, may also be confused with dropping-out behavior or non-persistence.

Tinto (1975) highlighted two core variables that are associated with the retention of students in higher education. These variables are academic and social integration. Pascarella et al. (1986) have also noted academic and social integration to be core variables for retention of students in community college. These researches indicated that it may be possible to enhance the retention of community college students through institutional practices, such as cooperative learning, designed to promote academic and social integration. It may also be worthy to note that for male students at community colleges, relationships with a faculty or administrator play a significant role in their social integration, while for females leadership activities play a more significant role in their social integration (Pascarella et al., 1986). Ethington (2000) postulated that it is not just the involvement of community college students with their college faculty per se that is of

importance, but what is meaningful and influences the development of these students is the opportunity for engagement with other students provided by faculty in their courses. Cooperative learning by the nature of its structure can offer to these students both social and academic integration.

Summary of Review of Literature

The literature overwhelmingly supports the use of cooperative learning as an instructional strategy (Felder & Brent, 2007; Johnson et al., 2000; Kanthan & Mills, 2007; Strom & Strom, 2002; Yamarik, 2007). When cooperative learning is used, not only do students experience positive gains academically, but also there are positive gains with respect to self-esteem, race relations, and general human relations (Johnson et al., 2000). The literature is filled with exhortations for college educators to take advantage of this powerful teaching and learning tool, and as Hennessy and Evans (2006) and Ethington (2000) pointed out, the community college student population could positively benefit from the use of cooperative learning.

As it is, however, most college educators have been trained using traditional methods; so cooperative learning appears to be a challenge to them. Cooperative learning requires that educators share with their students the authority of teaching and helping other students in the classroom, tasks typically reserved only for educators by traditional teaching methods. This may pose a threat to many college educators. Therefore, in spite of the call for reform in higher education teaching and for the use of more cooperative learning strategies, the process appears to be more words than action (Felder & Brent, 2007).

Whatever the setbacks are that discourage community college and other higher education educators from using cooperative learning, it remains that valuable educational

resources in the form of students are being wasted (Johnson et al., 2000). Hanson and Carpenter (2011) indicated that "cooperative learning is central to good teaching and reflects ethically responsible actions that support student learning" (p. 271). Teachers need to learn to grant authority to students, and students to peers. Phipps, Phipps, Kosk , and Higgins (2001) suggested that higher education faculty and administrators need to come together to support cooperative learning for all types of courses in order to provide training and support opportunities for faculty to enhance the use of this valuable teaching and learning strategy. With the mission of the community college being that of providing opportunity, access, and success to students (Dyer, 1991), cooperative learning appears to be a valuable resource. More research on the use of cooperative learning in community college is needed, however. Increased research on cooperative learning in community colleges may be the catalyst to propel the use of this learning and teaching method at this level of education.

Chapter 3

Methodology

Design and Procedure

This chapter describes the research design used to conduct the study, with special emphasis given to the collection and analysis of data. The study examined the perceptions and use of cooperative learning by community college faculty members in their face-to-face classes. The research perspective used is quantitative and the research approach is descriptive. The chapter also describes the population and sample used, discusses the research variables, and describes the instrumentation, procedure, and the method of data analysis used.

The purpose of descriptive research is to describe a phenomenon, providing frequencies, percentages and/or averages. This type of research is important in laying the groundwork for further studies and for the development of understanding of beliefs and practices of specific populations (Creswell, 2009). This study used the survey method as part of the descriptive research to gather information about the population, the faculty of Success Community College (SCC), an urban community college in southern United States.

Population and sample. The population used for this study was full and part-time faculty members at Success Community College (SCC) who taught at least one face-to-face class during spring semester of 2011. The researcher obtained permission to conduct the research from the Provost and Executive Vice President of Academic and Information Services of the college. This college had 662 faculty members, 228 full-time faculty and 434 adjunct or part-time faculty, who taught during the spring, 2011 semester.

Of this group, 640 faculty members, 217 full-time and 423 part-time faculty, taught face-to-face classes. The sampling method used for the study was a single stage design, convenience sample. It is a single stage design because the researcher, a faculty member at the college, had access to names and e-mail addresses of the people in the population and could contact them directly (Creswell, 2009).

All full-time and adjunct faculty members who taught at least one face-to-face class during spring semester 2011 were part of the population, and were eligible to be part of the sample for the study. The Provost and Executive Vice President of Academic and Information Services of the college contacted faculty members via email to complete the online survey by clicking a link that took them to the survey. One hundred and forty eight faculty members completed the survey and composed the sample for the study. This was a convenience sample, but the utilization of this sample was equitable, as of the 662 faculty who taught during the spring semester, 640 (97%) were eligible and had the opportunity to participate.

The instruction for completing the survey contained informed consent material including the purpose, procedure, benefits, and risks of the survey (see Appendix A). In addition, the instruction indicated that the participation of the faculty members was voluntarily, and that by completion of the survey the faculty would have provided informed consent verification. Participants were not required to identify themselves for confidentiality purposes. The link provided to the online survey also ensured confidentiality.

Variables in the study. The purpose of this research is to examine the perceptions and use of cooperative learning by faculty members at a southern community college. The

dependent variables in this study were the perceptions of faculty members and use of cooperative learning. The independent variables were the demographical factors related to the community college faculty members. These factors included faculty status (full-time or part-time), length of time teaching, teaching position (professor, associate professor ,etc.), the department in which the faculty taught (education, social science, etc.), the time the faculty taught (day or night), faculty gender (male or female), average class size taught, experience using cooperative learning, and training in cooperative learning.

Instrumentation. The survey instrument used in this study is a modified version of the Cooperative Learning Implementation Questionnaire (CLIQ) (Abrami, et al., 2004) (see Appendix A). See Appendix B for a copy of the original CLIQ. Permission to use the CLIQ instrument was received from Dr. Philip Abrami, Director and Research Chair, Centre for The Study of Learning and Performance, Concordia University, Montreal, Quebec, Canada. The permission documentation is provided in Appendix B. This researcher made a few changes to the demographic items on the original survey to accommodate the characteristics of the faculty at the college. Item 14 of the original survey was also modified by adding "students' goals."

The survey has 3 sections; the first section, "professional views on cooperative learning," is comprised of 48 multiple-choice items identifying the attitude of educators toward cooperative learning. The second section, "tell us about yourselves" contains 11 demographic items on the original survey and 12 demographic items in the modified survey used for this study. The last section, "current teaching practices" has 9 items concerning the use of the cooperative learning strategy by teachers. The survey required about 12 to 15 minutes of completion time.

Cooperative Learning Implementation Questionnaire explores various factors that may affect the use of cooperative learning by educators. These factors were derived from previous research identifying factors that generally affect the use of innovation by educators. In developing the instrument, 15 teachers were interviewed to ascertain their views on issues that affect the implementation of cooperative learning by teachers. Along with the interviews of teachers, cooperative learning researchers and trainers were consulted regarding concerns about implementation of cooperative learning. The instrument development process, therefore, generated information from previous research studies, practitioners, and theoreticians (Abrami et al., 2004).

The factors identified as affecting the perceptions of teachers about cooperative learning fell into three categories: cost, value, and expectancy (Abrami et al., 2004). Items that addressed cost assessed the perceived demand of cooperative learning on teachers, demands such as time needed for preparation or implementation. Items that addressed value assessed the perceptions of teachers regarding the usefulness of cooperative learning. The value of cooperative learning examined whether cooperative learning was perceived by teachers to be beneficial to them and their students and whether cooperative learning matched the teaching philosophy of the teachers. Items on the questionnaire that related to expectancy examined the perceptions of teachers regarding their expected outcomes when using cooperative learning (Abrami et al., 2004).

The questionnaire items were developed and categorized based on whether they addressed the issues of cost, value, or expectancy. To ascertain a common understanding of cooperative learning, the CLIQ provides a definition of the term as an introduction to the questions. A pilot testing was done with 48 items that identified the

attitudes of teachers toward cooperative learning. The survey instrument was previously used in a research study in 1998 involving 1,031 teachers. Of these teachers, 754 were primary school teachers, 247 high school teachers, 19 from social affair schools, and 11 from vocational/adult education. Ninety-eight of the participants were eliminated from the study due to failure to answer pertinent survey questions (Abrami et al., 2004).

For this study, the researcher conducted a pilot study of the survey with five faculty members from Success Community College to examine the meaningfulness of the CLIQ questions to community college faculty with regard to their perceptions of cooperative learning and factors that may affect their use of this teaching strategy. These faculty members were from different teaching disciplines, including psychology, math, history, fine arts, and education. They completed a copy of the original CLIQ survey and a copy of the survey modified by this researcher.

The members of the community college pilot group were questioned concerning their satisfaction of the modifications made to the survey. They agreed with this researcher that question 14 should address the goals of students, as parental goals would not be as important for college faculty. The faculty members also agreed to the modifications made to the demographic questions on the survey.

Reliability and validity. Creswell (2009) expressed the importance of establishing reliability and validity of survey instruments used in research. Reliability tells whether there is consistency in the result of a set of measurements used at different times under same circumstances. The reliability of a survey instrument indicates the extent to which that instrument yields consistent data (Neuman, 2003).

Validity tells the extent to which a measure assesses what it is intended to assess (Light, Singer, & Willett, 1990). Sproull (2003) spoke to the importance of content validity as it enables participants to gain a similar understanding of the questions on a survey. To facilitate content validity and ensure that participants have similar understanding of the questions on the CLIQ, a definition of cooperative learning was provided on the instrument, prior to the questions.

A test of internal reliability using Cronbech's alpha, for the questions within each of the categories on the CLIQ is noted to be high. For the cost category alpha is 0.87, for value category alpha is 0.74, and for expectancy 0.86. Factor analysis and test for internal reliability indicated that the questionnaire met the needed criteria of reliability and validity (Abrami et al., 2004).

Data collection. Data for this study came from a survey completed by faculty at Success Community College (SCC), a southern urban community college. Two hundred and twenty seven faculty members responded to the survey online. Participants accessed the survey via a hyperlink that protected their identity. Of this group, 148 completed the survey and formed the sample for the study.

The faculty members received a request to complete the survey through an email from the Provost and the Vice President of Academic Affairs and Information Services of the college. The email informed them of the purpose, confidentiality, procedure, risks, and benefits of the survey. As part of the instruction for the survey faculty also received informed consent information. Two weeks after the initial request to complete the survey, faculty received a follow-up email. This email thanked those who had completed the

survey and encouraged those who had not participated to respond. The link to the survey was also sent a second time to provide convenience to access the survey.

It was decided that if the response rate of the faculty to the survey was less than one third of the eligible faculty population, a third attempt would be made to have more faculty members participate. However, after the second request 227 faculty members responded to the survey. This accounted for 35.5% of the eligible faculty population.

Survey Gizmo hosted the online survey. Survey Gizmo, a computer software program available via the internet for a fee, was used in the design and data collection of online surveys. The program has security to protect the confidentiality of the survey, the participants, and the data collected. It used an encryption process to ensure the security of information and was scanned daily for safety from hackers (Survey Gizmo, 2009). Survey Gizmo was used to host the survey because it provides an efficient way to reach a large number of people and to collect needed data, while keeping information confidential through anonymity.

Data analysis. The researcher used descriptive statistics to analyze the data collected in the study. The research questions were matched with the items on the survey to gather data that appropriately addressed the purpose of the study. The researcher addressed the research questions in the following manner:

Research question 1. To what extent do community college faculty members use cooperative learning as a teaching strategy in their face-to-face classes? Faculty members were categorized as users if in answering item 61 of the modified CLIQ they identify cooperative learning as entirely, largely, somewhat, or slightly part of their current classroom routine. They were identified as non-users if they did not at all use cooperative

learning. Item 61 of the modified CLIQ asked respondents to rate the degree to which they use cooperative learning in their classroom. The researcher used descriptive statistics of percentages to report the extent to which the community college faculty members in the study used cooperative learning in their face-to-face classes.

Research question 2. What are the perceptions of community college faculty regarding cooperative learning? As in the study by Abrami et al. (2004), this researcher grouped the first 48 items on the modified CLIQ into three perception categories: cost (demands of cooperative learning on faculty members), value (usefulness of cooperative learning strategy), and expectancy (perceptions of desired outcomes of cooperative learning). These categories indicated the perceptions of faculty members regarding cooperative learning. The researcher used descriptive statistics of percentages to analyze the data.

Research question 3. To what degree do community college faculty members understand the key principles of cooperative learning? Three of the survey items deal with this research question. They are survey items 63 and 64, which deal with positive interdependence, and item 65, which deals with individual accountability. The researcher used descriptive statistics of percentages to analyze the data and provide information for this research question.

Chapter 4

Results

The purpose of this study was to examine the perceptions and use of cooperative learning by community college faculty members. Reported in this chapter are the findings from the three guiding research questions.

Population and Sample

The population for this research was all full-time and part-time faculty members who taught at least one face-to-face class during the spring semester of 2011 at Success Community College. The college had 662 faculty members during the spring semester of 2011, with 228 full-time and 434 part-time or adjunct faculty members. The instructions provided for the survey requested faculty members not to participate unless they met the criteria of teaching at least one face-to-face class. Six hundred and forty faculty members met the eligibility criteria. This group included 217 full-time and 423 part-time faculty members.

Of the 640 eligible faculty members, 148 completed the survey and formed the sample for the survey, $N = 148$. Completers of the survey answered over 80% of the survey questions and went to the end of the survey. The completers included 79 full-time and 69 part-time faculty members. This group included 92 females and 56 males; 13 of them had the faculty rank of professor, 34 had faculty rank of associate professor, 28 had faculty rank of assistant professor, and 73 had faculty rank of instructor. They also had an average teaching experience of 14 years.

Faculty members were not required to answer all of the items on the survey. The instructions asked those who did not use cooperative learning to stop answering the survey

at item 62, as items 63 to 69 dealt with the use of cooperative learning. All of the 148 faculty members in the sample, answered all the survey items up to number 61 and 147 of them answered up to item 62. The number of participants answering items 63 through 69 varied between 99 and 102 respondents.

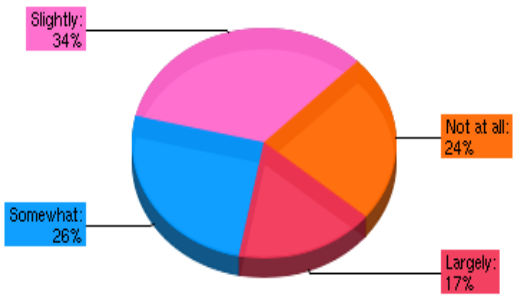
Response rate of participants. Of 640 eligible faculty members, 227 responded to the survey. This accounted for a 35.5% response rate of eligible faculty members, a little over the 33.3% targeted by the researcher. Of the 227 faculty members who responded to the survey, 79 partially answered the questions. These participants responded to less than 50% of the survey questions and were therefore not included in the study. Thus, the respondents for completed surveys were 148 faculty members, 79 fulltime and 69 part-time faculty members. This group of 148 faculty members formed the sample for the study.

Research Questions

Research question 1. To what extent do community college faculty members use cooperative learning as a teaching strategy in their face-to-face classes? In answering this research question, the researcher identified participants as users and non-users of cooperative learning based on their answer to item 61 on the modified CLIQ. This item asked respondents to rate the degree to which cooperative learning is part of their current classroom routine. Users reported cooperative learning to be entirely, largely, somewhat, or slightly part of their classroom routine and non-users reported to not at all use cooperative learning.

Based on descriptive statistics, 76% (N = 113) of the 148 participants who completed the survey reported using cooperative learning at least “slightly” in their current classes and were therefore labeled “users". Of the 113 users, none (0%) identified

cooperative learning as being "entirely" part of their classroom routine. Seventeen percent (*N* = 25) reported that they" largely" used cooperative learning, 26% (*N* = 38) reported that cooperative learning was "somewhat" part of their classroom routine, and 34% (*N* = 50) reported cooperative learning as "slightly" part of their classroom routine. Non-users of cooperative learning, those who reported not to use cooperative learning at all, made up 23 % (*N* = 35) of the sample. Figure 1 displays the users' and non-users' responses.



Rating	N	Percent %
Entirely	0	0%
Largely	25	16.9%
Somewhat	38	25.7%
Slightly	50	33.8%
Not at all	35	23.6%

Statistics	
Total Responses	148

Figure 1. Users and Non – Users Responses to Survey Question 61

The graph illustrates respondents' answer to CLIQ question 61: Rate the extent to which cooperative learning is part of your CURRENT classroom routine.

Research question 2. What are the perceptions of community college faculty members regarding cooperative learning? Based on previous research (Abrami et al., 2004), this researcher grouped each of the first 48 items of the modified CLIQ into perception categories of cost of implementation (C), value (V), and expectancy of success (E). The researcher then calculated the percentages of participants who responded to the perception items. The percentages of participants responding to each perception item were also illustrated in pie charts that are included in Appendix C.

The higher the percentage scores for the cost category, the lower the cost faculty members perceived they would have to endure when implementing cooperative learning. The higher the percentage scores in the value category, the greater the value faculty members placed on cooperative learning. In addition, the higher the percentage scores in the expectancy category, the greater the expectancy of success the faculty members had for cooperative learning.

Perception of cost. Seven items on the survey dealt with the perceptions of faculty concerning the cost of implementing cooperative learning (see Table 1). This researcher conducted an item analysis of the seven items and divided them into two categories: time cost and physical cost. The time cost category included items 27, 38, and 45, and the physical cost category included items 3, 20, 32, and 36.

Table 1

CLIQ Belief/Perception Cost Category

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
3	The costs involved in implementing cooperative learning are great.	C	10%	28%	62%
27	There is too little time available to prepare students to work effectively in groups.	C	26%	18%	56%
20	It is impossible to implement cooperative learning without specialized materials.	C	14%	21%	65%
32	Implementing cooperative learning requires a great deal of effort.	C	41%	22%	37%
36	Cooperative learning is an efficient classroom strategy.	C	65%	24%	11%
38	Implementing cooperative learning takes too much class time.	C	20%	22%	58%
45	Implementing cooperative learning takes too much preparation time.	C	9%	26%	65%

N = 148; A = Agree; SA = Strongly Agree; Neu = Neutral; D=Disagree; SD = Strongly Disagree

Time-cost. Concerning time cost, item 27 of the survey stated that there is too little time available to prepare students for effective group work. Fifty-six percent (*N* = 83) of respondents disagreed or strongly disagreed with the statement. Fifty-eight percent (*N* = 86) of respondents also reported to disagree or strongly disagree to survey item 38 which states that cooperative learning uses too much class time. In response to survey question 45 which states that cooperative learning takes too much preparation time, 65% (*N* = 96) of respondents disagreed to strongly disagreed (see Table 2).

Table 2

CLIQ Belief/Perception Time-Cost Category

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
27	There is too little time available to prepare students to work effectively in groups.	C	26%	18%	56%
38	Implementing cooperative learning takes too much class time.	C	20%	22%	58%
45	Implementing cooperative learning takes too much preparation time.	C	9%	26%	65%

N = 148; A = Agree; SA = Strongly Agree; Neu = Neutral; D = Disagree; SD=Strongly Disagree

Physical-cost. Concerning physical cost, 62% (*N* = 92) of the respondents reported that they disagreed to strongly disagreed with item 3 of the survey, which says that the cost to implement cooperative learning is great. Sixty-five percent (*N* = 97) of respondents disagreed or strongly disagreed with item 20 of the survey, which states that it is not possible to implement cooperative learning without the use of specialized material. Forty-one percent (*N* = 61) of the respondents agreed to strongly agreed with item 32 that a great deal of effort is needed to implement cooperative learning. In addition, 65% (*N* = 96) of the faculty agreed or strongly agreed with item 36 that cooperative learning is an efficient strategy (see Table 3).

Table 3

CLIQ Belief/Perception Physical-Cost Category

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
3	The costs involved in implementing cooperative learning are great.	C	10%	28%	62%
20	It is impossible to implement cooperative learning without specialized materials.	C	14%	21%	65%
32	Implementing cooperative learning requires a great deal of effort.	C	41%	22%	37%
36	Cooperative learning is an efficient classroom strategy.	C	65%	24%	11%

N = 148; A = Agree; SA = Strongly Agree; Neu = Neutral; D = Disagree; SD = Strongly Disagree

Perception of value. Twenty-one of the perception items are value related items (see Table 4). This researcher did an item analysis of these 21 items and divided them into two categories: perception of value regarding students (student-related value) and perception of value regarding educators (educator-related value).

Table 4

CLIQ Belief/Perception Value Category

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
4	Competition best prepares students for the real world.	V	49%	30%	21%
6	Cooperative learning holds bright students back.	V	12%	17%	71%
7	There are too many demands for change in education today.	V	35%	19%	46%
8	Cooperative learning is consistent with my teaching philosophy.	V	57%	28%	15%
12	Using cooperative learning enhances my career advancement.	V	18%	47%	35%
14	Cooperative learning contradicts parental goals.	V	4%	20%	66%
15	Cooperative learning is a valuable instructional approach.	V	73%	22%	6%
16	Peer interaction helps students obtain a deeper understanding of the material.	V	84%	11%	5%
21.	I feel pressured by the administration to use cooperative learning.	V	4%	14%	82%
22	Cooperative learning places too much emphasis on developing students' social skills.	V	10%	26%	64%
25	Engaging in cooperative learning enhances students' social skills.	V	74%	23%	3%
26	It is impossible to evaluate students fairly when using cooperative learning.	V	21%	22%	57%
29	Using cooperative learning promotes friendship among students.	V	72%	24%	4%
31	Engaging in cooperative learning interferes with students' academic progress.	V	7%	18%	75%
34	Cooperative learning enhances the learning of low-ability students.	V	65%	26%	9%
35	I feel pressured by other teachers to use cooperative learning.	V	1%	13%	86%

Table 4 (continued)

CLIQ Belief/Perception Value Category

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
37	Cooperative learning helps meet my school's goals.	V	49%	43%	8%
39	Using cooperative learning fosters positive student attitudes towards learning.	V	61%	30%	9%
42	I prefer using familiar teaching methods over trying new approaches.	V	18%	17%	65%
46	I feel a personal commitment to using cooperative learning.	V	40%	29%	31%
47	Cooperative learning gives too much responsibility to the students.	V	7%	20%	73%

N = 148; A = Agree; SA = Strongly Agree; Neu = Neutral; D = Disagree; SD = Strongly Disagree

Student-related value. The following items 4, 6, 14, 16, 22, 25, 26, 29, 31, 34, 39, and 47, deal with the perception of value regarding students (see Table 5). Concerning the faculty perception of value related to students, 49% (*N* = 73) of respondents reported to agree or strongly agree or item 4 of the survey, which indicates that competition best prepares students for the real world. Also, 71% (*N* = 105) of respondents reported to disagree or strongly disagree with item 6, which indicates that cooperative learning holds back bright students. Sixty-six percent (*N* = 98) of respondents reported to disagree or strongly disagree with item 14, which indicates that cooperative learning contradicts the goals of students. In addition, 84% (*N* = 124) of the faculty members responded to item 16 and agreed or strongly agreed that the interaction of the students provide deeper

understanding of material. Also, 64% (*N* = 95) of respondents reported or disagree to strongly disagree with survey item 22, which indicates that cooperative learning places too much emphasis on developing students' social skills and 74% (*N* = 110) agreed or strongly agreed with item 25, that cooperative learning enhances the social skills of students.

Fifty-seven percent of respondents (*N* = 84) reported to disagree to strongly disagree with survey item 26 which indicates that it is impossible to provide a fair evaluation of students with the use of cooperative learning. In answering item 29, 72% (*N* = 107) of respondents reported that they agreed or strongly agreed that the use of cooperative learning encourages students' friendship. Also, 75% (*N* = 111) of respondents reported to disagree to strongly disagree with survey item 31, which indicates that cooperative learning interferes with the academic success of students. Sixty-five percent (*N* = 96) of respondents in answering item 34 reported to agree or strongly agree that cooperative learning enhances lower ability students' learning and 61% (*N* = 90) of respondents agreed or strongly agreed with item 39 that positive student attitudes toward learning are fostered by cooperative learning. Finally, 73% (*N* = 108) of respondents reported to disagree or strongly disagree that cooperative learning provides students with too much responsibility.

Table 5

CLIQ Belief/Perception Student-Related Value Category

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
4	Competition best prepares students for the real world.	V	49%	30%	21%
6	Cooperative learning holds bright students back.	V	12%	17%	71%
14	Cooperative learning contradicts parental goals.	V	4%	20%	66%
16	Peer interaction helps students obtain a deeper understanding of the material.	V	84%	11%	5%
22	Cooperative learning places too much emphasis on developing students' social skills.	V	10%	26%	64%
25	Engaging in cooperative learning enhances students' social skills.	V	74%	23%	3%
26	It is impossible to evaluate students fairly when using cooperative learning.	V	21%	22%	57%
29	Using cooperative learning promotes friendship among students.	V	72%	24%	4%
31	Engaging in cooperative learning interferes with students' academic progress.	V	7%	18%	75%
34	Cooperative learning enhances the learning of low-ability students.	V	65%	26%	9%
39	Using cooperative learning fosters positive student attitudes towards learning.	V	61%	30%	9%
47	Cooperative learning gives too much responsibility to the students.	V	7%	20%	73%

N = 148; A = Agree; SA = Strongly Agree; Neu = Neutral; D = Disagree; SD = Strongly Disagree

Educator-related value. Items 7, 8, 12, 15, 21, 35, 37, 42, and 46 deal with the perception of value regarding educators (see Table 6). In regards to the perception of value

in relationship to educators, 46% (*N* = 68) of respondents reported to disagree or strongly disagree with item 7 of the survey, which indicates that education has too many demands for change. In addition, 57% (*N* = 84) of respondents indicated that they agreed to strongly agreed with item 8 of the survey, which indicates that cooperative learning is consistent with their philosophy of teaching. Seventy-five percent (*N* = 111) of respondents indicated that they agreed or strongly agreed with item 15, which indicates that they consider cooperative learning a valuable approach to teaching; and 82% (*N* = 121) of the faculty disagreed or strongly disagreed with item 21, which states that respondents feel pressured to use cooperative learning by administration. In addition, 86% (*N* = 127) of respondents disagreed or strongly disagreed with item 35, which indicates that respondents feel pressured by other educators to use cooperative learning.

Forty-nine percent (*N* = 73) of the respondents agreed or strongly agreed with item 37, that cooperative learning contributes to meeting the goals of their college. Also, 65% (*N* = 96) of the respondents disagreed or strongly disagreed with item 42 of the survey. This item indicates that the respondents prefer to use teaching methods with which they are familiar in comparison to new methods; and lastly, 40% (*N* = 59) of the faculty agreed to strongly agreed with item 46 of the survey, which indicates that they feel a personal commitment to use cooperative learning.

Table 6

CLIQ Belief/Perception Educator-Related Value Category

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
7	There are too many demands for change in education today.	V	35%	19%	46%
8	Cooperative learning is consistent with my teaching philosophy.	V	57%	28%	15%
12	Using cooperative learning enhances my career advancement.	V	18%	47%	35%
15	Cooperative learning is a valuable instructional approach.	V	73%	22%	6%
21.	I feel pressured by the administration to use cooperative learning.	V	4%	14%	82%
35	I feel pressured by other teachers to use cooperative learning.	V	1%	13%	86%
37	Cooperative learning helps meet my school's goals.	V	49%	43%	8%
39	Using cooperative learning fosters positive student attitudes towards learning.	V	61%	30%	9%
42	I prefer using familiar teaching methods over trying new approaches.	V	18%	17%	65%
46	I feel a personal commitment to using cooperative learning.	V	40%	29%	31%

N = 148; A = Agree; SA = Strongly Agree; Neu = Neutral; D = Disagree; SD = Strongly Disagree

Expectancy of success. Twenty of the survey items deal with the perception of expectancy of success of cooperative learning (see Table 7). The researcher conducted an item analysis and divided these 20 survey items into three areas: expectancy regarding students, expectancy regarding knowledge of educators, and expectancy regarding training and support.

Table 7

CLIQ Belief/Perception Expectancy Category

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
1	If I use cooperative learning, the students tend to veer off task.	E	20%	30%	50%
2	I understand cooperative learning well enough to implement it successfully.	E	62%	18%	20%
5	The amount of cooperative learning training I have received has prepared me to implement it successfully.	E	35%	27%	29%
9	My students presently lack the skills necessary for effective cooperative group work.	E	30%	18%	52%
10	For me to succeed in using cooperative learning depends on receiving support from my colleagues.	E	19%	24%	57%
11	Using cooperative learning is likely to create too many disciplinary problems among my students.	E	10%	16%	74%
13	For me to succeed in using cooperative learning requires support from the school administration.	E	36%	20%	44%
17	My training in cooperative learning has not been practical enough for me to implement it successfully.	E	32%	23%	45%
18	Cooperative learning is appropriate for the grade level I teach.	E	75%	16%	9%
19	If I use cooperative learning, too many students expect group members to do the work.	E	45%	23%	32%
23	I believe I can implement cooperative learning successfully.	E	71%	18%	11%
24	I have too little teaching experience to implement cooperative learning successfully.	E	10%	12%	7 8%

Table 7 (continued)

CLIQ Belief/Perception Expectancy Category

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
28	There are too many students in my class to implement cooperative learning effectively.	E	9%	20%	71%
30	My students are resistant to working in cooperative groups.	E	3%	20%	57%
33	Cooperative learning is inappropriate for the subject I teach.	E	14%	15%	71%
40	I find that cooperative learning is too difficult to implement successfully.	E	8%	28%	64%
41	Cooperative learning would not work with my students.	E	13%	17%	70%
43	If I use cooperative learning, my classroom is too noisy.	E	7%	23%	70%
44	I believe I am a very effective teacher.	E	92%	5%	3%
48	The physical set-up of my classroom is an to obstacle using cooperative learning.	E	26%	18%	56%

N = 148; A = Agree; SA = Strongly Agree; Neu = Neutral; D = Disagree; SD = Strongly Disagree

Expectancy regarding students. Expectancy regarding students included items 1, 9, 11, 18, 19, 28, 30, 41, and 43. These address the perceptions of educators regarding the expectancy of success of students when using cooperative learning (see Table 8). Fifty percent (*N* = 74) of respondents disagreed or strongly disagreed with item 1 of the survey, which indicated that students tend to veer off their task when cooperative learning is used. In answering item 9 of the survey, 52% (*N* = 77) of the respondents disagreed or strongly disagreed with the statement that the students currently lack the skills necessary to

effectively work in cooperative learning groups. Similarly, in responding to item 11 of the survey, which indicates that using cooperative learning is likely to result in too many disciplinary problems with students,74% (N = 110) of respondents disagreed or strongly disagreed with the statement.

Seventy-five percent of the participants reported to agree or strongly agree with item 18 of the survey, which states that cooperative learning is appropriate for the grade respondents teach. In addition, 45% (N = 67) of respondents agreed or strongly agreed with the statement in item 19 that when cooperative learning is used, too many students expect team members to do the work. Seventy-one percent (N = 105) disagreed or strongly disagreed with item 28 of the survey, that there are too many students in the classroom of the respondents for them to use cooperative learning effectively. In response to item 30, respondents disagreed or strongly disagreed by 57% (N = 84) that their students are resistant to working in cooperative learning groups. Also, 70% (N = 104) of respondents disagreed to strongly disagreed with the statement of item 41, that cooperative learning would not work with their students. Similarly, 70% (N = 104) of the respondents disagreed or strongly disagreed with the statement of survey item 43, that if respondents use cooperative learning, their classroom would be too noisy.

Table 8

CLIQ Belief/PerceptionExpectancy Regarding Students

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
1	If I use cooperative learning, the students tend to veer off task.	E	20%	30%	50%
9	My students presently lack the skills necessary for effective cooperative group work.	E	30%	18%	52%
11	Using cooperative learning is likely to create too many disciplinary problems among my students.	E	10%	16%	74%
18	Cooperative learning is appropriate for the grade level I teach.	E	75%	16%	9%
19	If I use cooperative learning, too many students expect group members to do the work.	E	45%	23%	32%
28	There are too many students in my class to implement cooperative learning effectively.	E	9%	20%	71%
30	My students are resistant to working in cooperative groups.	E	3%	20%	57%
41	Cooperative learning would not work with my students.	E	13%	17%	70%
43	If I use cooperative learning, my classroom is too noisy.	E	7%	23%	70%

N = 148; A = Agree; SA = Strongly Agree; Neu = Neutral; D = Disagree; SD = Strongly Disagree

Expectancy regarding knowledge of educators. Concerning the perception of expectancy relating to the knowledge of educators, the following items are addressed: 2, 23, 24, 33, 40, 44, and 48 (see Table 9). Sixty-two percent (*N* = 92) of respondents reported

that they agreed to strongly agreed with item 2 of the survey, which indicated that they understood cooperative learning well enough to use it successfully. Seventy-one percent (*N* = 105) of respondents agreed or strongly agreed that they believe that they can implement cooperative learning successfully, as is stated by survey item 23. Also, 78% (*N* = 115) of respondents disagreed or strongly disagreed with item 24 of the survey, which indicated that respondents have too little teaching experience to use cooperative learning successfully. Similarly, 71% (*N* = 105) of respondents disagreed to strongly disagreed with item 33 of the survey, which indicates that cooperative learning is not appropriate for the subject respondents teach.

Additionally, 64% (*N* = 95) of respondents disagreed or strongly disagreed with item 40, that cooperative learning is too difficult to successfully implement. In regards item 44, which indicates that respondents believe they are effective teachers, 92% (*N* = 136) reported to agree or strongly agree. Fifty-six percent (*N* = 82) of respondents reported to disagree or strongly disagree with item 48, which indicates that the physical outlay of the classroom poses a hindrance to cooperative learning.

Table 9

CLIQ Belief/Perception Expectancy Regarding Knowledge of Educators

No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
2	I understand cooperative learning well enough to implement it successfully.	E	62%	18%	20%
23	I believe I can implement cooperative learning successfully.	E	71%	18%	11%
24	I have too little teaching experience to implement cooperative learning successfully.	E	10%	12%	7 8%
33	Cooperative learning is inappropriate for the subject I teach.	E	14%	15%	71%
40	I find that cooperative learning is too difficult to implement successfully.	E	8%	28%	64%
44	I believe I am a very effective teacher.	E	92%	5%	3%
48	The physical set-up of my classroom is an to obstacle using cooperative learning.	E	26%	18%	56%

N = 148; A = Agree; SA = Strongly Agree; Neu = Neutral; D = Disagree; SD = Strongly Disagree

Expectancy regarding training and support. Concerning the perception of expectancy of success related to training and support, the following items are addressed: 5, 10, 13, 17, 41, and 43 (see Table 10). In addressing item five, 38% (*N* = 57) of the respondents disagreed or strongly disagreed that the amount of training they have received prepares them to successfully use cooperative learning. Additionally, 57% (*N* = 84) of respondents reported to disagree or strongly disagree with item 10, that for them to succeed with the use of cooperative learning, they need the support of their colleagues. Also, 44% (*N* = 64) of the faculty members in answering item 13, disagreed or strongly disagreed that

for them to be successful in using cooperative learning they need the support of administration. Concerning item 17, which states that the training respondents received in cooperative learning was not practical enough for them to implement cooperative learning successfully, 45% (*N* = 67) disagreed to strongly disagreed.

Table 10

CLIQ Belief/Perception Expectancy Regarding Training and Support

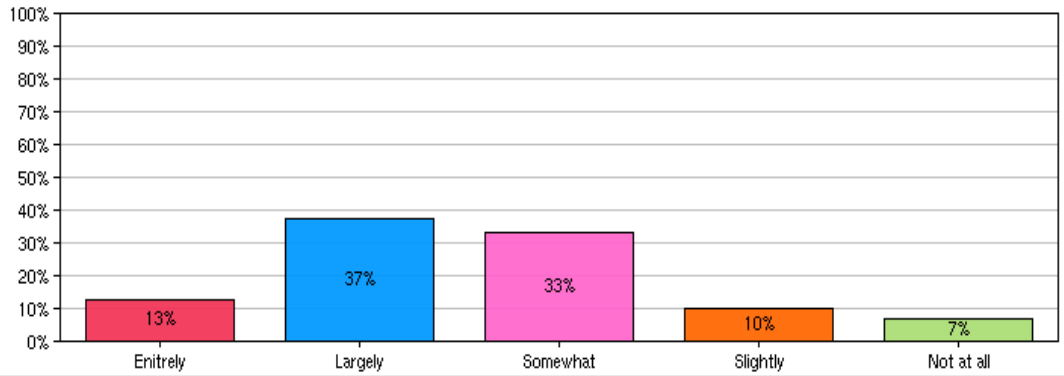
No.	Item	Belief Category	Percentage(%) of Participants A-SA	Neu	D-SD
5	The amount of cooperative learning training I have received has prepared me to implement it successfully.	E	35%	27%	29%
10	For me to succeed in using cooperative learning depends on receiving support from my colleagues.	E	19%	24%	57%
13	For me to succeed in using cooperative learning requires support from the school administration.	E	36%	20%	44%
17	My training in cooperative learning has not been practical enough for me to implement it successfully.	E	32%	23%	45%

N = 148; A=Agree; SA = Strongly Agree; Neu = Neutral; D = Disagree; SD = Strongly Disagree

Research question 3. Research question 3 asked, "To what degree do community college faculty members who use cooperative learning understand its key principles?" Two key principles of cooperative learning are positive interdependence and individual accountability (Johnson et al., 1998).

Positive interdependence. The cooperative learning principle of positive interdependence occurs when group members work actively together to promote the success of one another (Johnson et al., 1991). CLIQ questions 63 and 64 deal with the cooperative learning principle of positive interdependence. The CLIQ survey question 63 asks respondents to rate the degree to which they structure their cooperative learning activities to allow all group members to work actively together. Question 64 asks respondents to rate the extent to which their cooperative learning group members actively participate in a typical cooperative learning class activity.

Ninety three percent (N = 95) of the participants who answered CLIQ question 63 reported to at least "slightly" structure cooperative learning activities to enable all group members to work actively together. This demonstrated the use of the cooperative learning principle of positive interdependence. Thirteen percent (N = 13) of the participants reported to "entirely" structure cooperative learning activities to enable group members to work actively together. Thirty-seven percent (N = 38) of the faculty reported to "largely" structure cooperative learning activities to ensure that all students in the cooperative groups work actively together. Also, 33% (N = 34) reported that they "somewhat" structured cooperative learning to ensure that all group members work actively together, and 10% indicated that they "slightly" structured their learning activities to enable all group members to work actively together (see Figure 2).



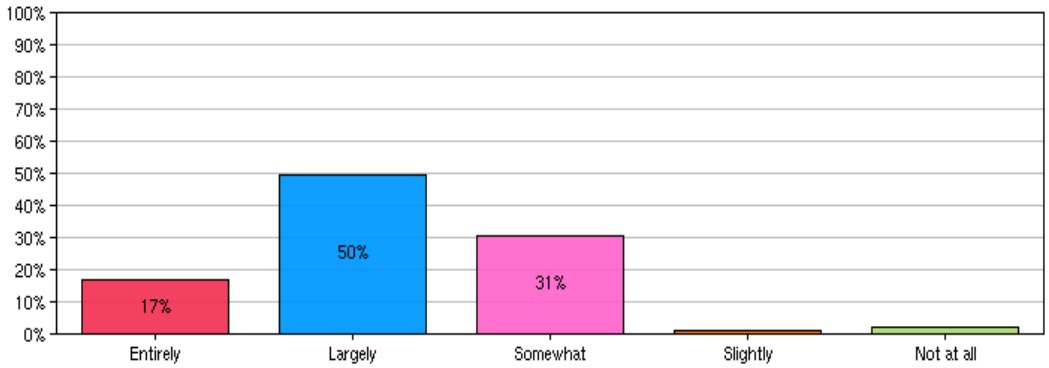
Rating	N	Percent %
Entirely	13	12.7%
Largely	38	37.3%
Somewhat	34	33.3%
Slightly	10	9.8%
Not at all	7	6.9%

Statistics	
Total Responses	102

Figure 2. Faculty Responses to Survey Question 63

The figure illustrates respondents' answer to CLIQ question 63: Rate the extent to which you structure your cooperative learning activities to ensure that all group members actively work together.

Results also indicated that 99% (*N* = 99) of the participants who answered question 64 of the CLIQ survey accounted for the principle of positive interdependence by rating the extent to which their cooperative learning group members actively participate as "at least slightly." Seventeen percent (*N* = 17) of the faculty members rated the participation of group members during a typical cooperative learning activity as "entirely." Fifty percent (*N* = 50) of the faculty members rated their cooperative group members as "largely" participating in activities, 31% (*N* = 31) of the faculty members rated the participation of group members as "somewhat," and 1% (*N* = 1) indicated that their students only "slightly" participated in groups (see Figure 3).



Rating	N	Percent %
Entirely	17	16.8%
Largely	50	49.5%
Somewhat	31	30.7%
Slightly	1	1%
Not at all	2	2%

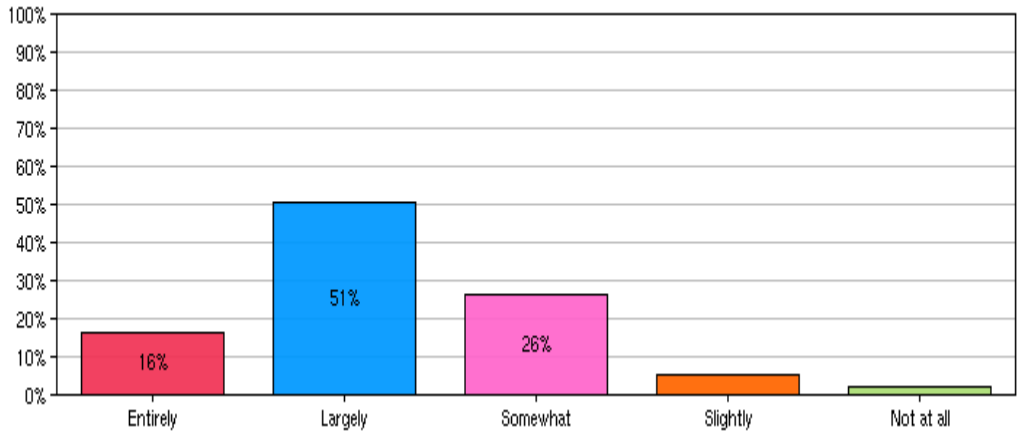
Statistics	
Total Responses	101

*Figure 3***.** Faculty Responses to Survey Question 64

The figure illustrates respondents' answer to CLIQ question 64: In a typical cooperative learning activity in your class, rate the extent to which group members actively participate.

Individual accountability. Individual accountability is also an essential principle for effective cooperative learning. This principle requires each group member to be a contributor to the learning process. CLIQ question 65 asks respondents to rate the extent to which students in their class complete their share of group tasks in a typical cooperative learning activity. This question deals with the concept of individual accountability.

Ninety-seven percent (*N* = 97) of the respondents accounted for the principle of individual accountability by rating the extent to which their students completed their share of work as, at least "slightly." Sixteen percent (*N* = 16) of the faculty respondents reported that their students "entirely" completed their share of group work in a typical cooperative learning activity. Fifty-one percent (*N* = 50) of the participants rated the extent of completion by their students of their share of group tasks as "largely." Twenty-six percent (*N* = 26) of the faculty members rated the extent students completed their share of work in a typical cooperative learning activity as "somewhat," and 5% (*N* = 5) rate the extent to which their students completed their share of work as "slightly" (see Figure 4).



Rating	N	Percent %
Entirely	16	16.2%
Largely	50	50.5%
Somewhat	26	26.3%
Slightly	5	5.1%
Not at all	2	2%

Statistics	
Total Responses	99

Figure 4. Faculty Responses to Survey Question 65

This figure illustrates the answers of respondents to CLIQ question 65: In a typical cooperative learning activity in your class, rate the extent to which your students complete their share of the group task.

Chapter 5

Discussion

Summary of Findings

The researcher of this study examined the perceptions and use of cooperative learning by community college faculty members. Data for the study came from self-reported information provided by community college faculty members to the modified Cooperative Learning Implementation Questionnaire. This chapter presents a discussion of the results.

Research question 1. To what extent do community college faculty members use cooperative learning in their face-to-face classes?

Research question 1 findings. The findings of the study revealed that the use of cooperative learning among this group of community college faculty was high with the majority of the respondents reporting to use cooperative learning at least "slightly" in their current classrooms. Though the majority of faculty members do use cooperative learning, it is not used systematically as only a small fraction of the faculty reported to use it "largely" and none of the faculty members used cooperative learning entirely as their teaching strategy.

The proportion of the community college faculty, roughly one-fourth who reported not to use cooperative learning at all, is much higher than the reported (11%) by primary school, high school, and adult education teachers in the study done by Abrami et al. (2004). The fact that more than one-fourth of the faculty declared no personal commitment to use cooperative learning may also hamper the systematic use of this teaching strategy. These findings support the literature that educators in higher education tend to embrace

cooperative learning less than do other educators. Jones and Jones (2008) noted that, "there is still resistance and hesitation in higher education to transform college classes into cooperative learning environment" (p. 62). Weimer (2008) indicated that 76% of college professors report to use lecture as their primary teaching strategy.

It is also important to note that little more than one-half of the faculty members in the study reported to receiving no training in cooperative learning. Of those who received training, a little more than a third reported to have adequate training to prepare them to implement cooperative learning successfully. A moderate 63% of the faculty reported that they understand cooperative learning enough to use it successfully. As it stands, a portion of those who reported to understand cooperative learning seems to be self-taught. Therefore, it appears that increased training in the area of cooperative learning would increase the use of this teaching strategy by this group of faculty.

Research question 2. What are the perceptions of community college faculty members regarding cooperative learning?

Research question 2 findings. This research focused on the perceptions and use of cooperative learning by community college faculty. With faculty perceptions grouped based on cost of implementation, value of cooperative learning, and expectancy for success, faculty reported high levels of perception in all of the categories.

The results of this study suggest that these educators do not perceive cooperative learning as a costly instructional strategy for them. Only a small percentage of the respondents reported that the cost of implementing cooperative learning is great, and the majority of them indicate that cooperative learning is an efficient classroom strategy.

The results also suggest that this group of faculty value cooperative learning as a teaching strategy. The majority of the respondents agree or strongly agree that cooperative learning is a valuable instructional approach, and majority of them also reported to agree or strongly agree that the peer interaction of cooperative learning helps students with a deeper understanding of learning material. Concerning expectancy for success in using cooperative learning, majority of the respondents reported that cooperative learning is appropriate for the grade they teach, and that they believe they can implement cooperative learning successfully.

The results suggest that faculty will make greater use of cooperative learning if they feel that they will be successful in using it. Therefore, it is therefore relevant to provide faculty members with adequate training and support in cooperative learning so that they can have a sense of expectancy of success in their effort to implement this teaching strategy. As with everything, adequate training and practice are important to success. However, in this study, only about one-third of the participants indicated that they had sufficient training to help them successfully implement cooperative learning in their classes. In order to increase the use and positive perceptions of cooperative learning by the community college faculty, attention must be directed to the training of faculty on cooperative learning strategies.

Research question 3. To what degree do community college faculty members, who use cooperative learning understand its key principles?

Research question 3 findings. The quality of use of cooperative learning is indicated by the use of its key principles. The faculty members' use of the key principles of cooperative learning is very high. Almost all of the faculty members report to structuring

their classes to ensure that students in cooperative learning groups actively work together, thus making sure that the cooperative learning key principle of positive interdependence is attained. Almost all of the faculty members also rate their students as active participants in their cooperative learning groups, which validate the use of the cooperative learning principle of positive interdependence.

Additionally, almost the entire faculty reports the occurrence of the key principle of individual accountability by students for their work. The college faculty use of the key principles of cooperative learning is greater than that reported by the teachers in the study conducted by Abrami et al. (2004) where "positive interdependence and individual accountability occurred in about half the classrooms," (p. 210) of the teachers in their study.

Along with maintaining cooperative learning key principles, the majority of the educators in this study report to use cooperative learning to motivate their students, and to increase academic achievement. The majority of the faculty members also use cooperative learning to improve the social skills of students, and enhance the self-esteem of their students. The result of this research is however, different from that found by Abrami et al. (2004), where teachers used cooperative learning to improve social skills more than to improve academic performance. The difference with this study may partly be that college faculty members may see their responsibility as that of teaching their courses and not that of teaching social skills. It may also be that there is less need for educators at the college level to teach social skills.

Conclusion

The research studies on cooperative learning support its use at all levels of education. The positive effects of cooperative learning on academic performance, self-esteem, social skills, and retention of students promote the importance of this concept to community colleges. The diverse student population at community colleges and the fact that these colleges tend to serve a large number of students with academic challenges also make cooperative learning a viable teaching and learning strategy for community colleges.

This study indicates a high use of cooperative learning at the community college that was surveyed. It also indicates the appropriate use of cooperate learning key principles as reported by faculty. However, the use of cooperative learning is not consistent as the majority of the faculty members do not use it on a regular basis. Also of importance is the need for faculty training in the area of cooperative learning.

Limitations of the Study

One limitation of this research is that it focuses on faculty members who taught face-to-face classes as opposed to online classes. Online classes were not included in this study, as these classes appeared to have challenges that are different from face-to-face classes, and most of the classes taught at Success Community College were face-to-face classes.

Another limitation of the study is the use of participants from a single college. Since data for this study came from only one community college, it may not represent all community college faculty members. Therefore, it warrants caution in generalizing the findings. Further research that includes participants from more community colleges is needed.

In addition, data for this study was obtained from volunteer respondents to the survey and may not be representative of the entire population of the faculty members. Also, self-reports as used in this study are subject to exaggeration, which may cause some bias in the research. Although definition of cooperative learning was provided, the researcher is also not sure that participants fully understood the difference between cooperative learning groups and other groups that may be used in the classroom. Further research that allows for interviews of some of the participants may help to clarify their understanding of cooperative learning methods.

Additionally, the CLIQ was not developed for use by college faculty. Although the instrument is general enough for use by any educator and was utilized for faculty with very few changes made to the demographic items, its use may also be a limitation. Further research that examines the relationship between demographic variables of faculty members and the use of cooperative learning may also be of importance.

An additional limitation of the study is the sample size. The return rate of the survey was 35.5%, but the completion rate of the survey was 25%, one hundred and forty eight completers. Twenty percent of the eligible faculty, 131 faculty members, accessed the survey but abandoned it without answering any of the questions. Administration of the survey occurred at the end of the semester when faculty members, typically inundated with work, often feel too busy for extra tasks. As a result, some faculty members may have not completed the survey.

Suggestions for Further Research

This research warrants replication using faculty from more community colleges and universities. This will increase the ability to generalize the results of the study and

help researchers to determine the extent to which the findings of this research are applicable to higher education.

Though only 17% of faculty reported to use cooperative learning at least "largely", 56% reported an intent to use cooperative learning with their students in the future. This interest in the use of cooperative learning could be the result of exaggeration sometimes found in self-reports or greater awareness of cooperative learning by faculty members because of participating in the study. Further research is warranted to investigate if there is an increase in faculty use of cooperative learning after their participation in this study.

A general and very important finding of this study is the need for more training and follow-up support on cooperative learning for faculty. Further research assessing training in cooperative learning for faculty is therefore relevant. Also of importance for further research is the investigation of use of cooperative learning by faculty after training.

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APPENDIX A

Cooperative Learning Implementation Questionnaire (modified) (CLIQ)

Attention

Please complete this survey ONLY if you are teaching at least one face-to-face class this semester, Spring 2011.

Survey Consent Information

This survey will be used in a research concerning cooperative learning. The purpose is to identify factors that may influence college educators' perceptions and use of cooperative learning strategy. The survey will take about 10 to 15 minutes to complete and your name, or other identifying information, is not required. This measure allows for anonymity and confidentiality. There are no risks to the completion of this survey and benefits include possible positive impacts for both students and faculty development. The results of the study will be made available to all faculty members at the end of the research. By completing this survey, you indicate that you have read this information concerning the study and have given your consent to participate.

Instructions

This questionnaire is designed to identify factors, which may have influenced your decision about whether or not to implement cooperative learning.

Our Definition of Cooperative Learning

Cooperative learning is an instructional strategy in which students work actively and purposefully together in small groups to enhance both their own, and their teammates' learning.

There are three sections to this questionnaire. The response scale is indicated for each section. Please check the response that best corresponds to your position. We appreciate your cooperation in completing this questionnaire.

SECTION I: Professional Views on Cooperative Learning

Directions

For each of the following statements, mark the response that best corresponds to your position, according to the response scale.

1) If I use cooperative learning, the students tend to veer off task.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

2) I understand cooperative learning well enough to implement it successfully.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

3) The costs involved in implementing cooperative learning are great.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

4) Competition best prepares students for the real world.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

5) The amount of cooperative learning training I have received has prepared me to implement it successfully.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

6) Cooperative learning holds bright students back.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

7) There are too many demands for change in education today.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

8) Cooperative learning is consistent with my teaching philosophy.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

9) My students presently lack the skills necessary for effective cooperative group work.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

10) For me to succeed in using cooperative learning depends on receiving support from my colleagues.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

11) Using cooperative learning is likely to create too many disciplinary problems among my students.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

12) Using cooperative learning enhances my career advancement.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

13) For me to succeed in using cooperative learning requires support from the school administration.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

14) Cooperative learning contradicts parental/student goals.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

15) Cooperative learning is a valuable instructional approach.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

16) Peer interaction helps students obtain a deeper understanding of the material.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

17) My training in cooperative learning has not been practical enough for me to implement it successfully.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

18) Cooperative learning is appropriate for the grade level I teach.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

19) If I use cooperative learning, too many students expect other group members to do the work.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

20) It is impossible to implement cooperative learning without specialized materials.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

21) I feel pressured by the administration to use cooperative learning.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

22) Cooperative learning places too much emphasis on developing students' social skills.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

23) I believe I can implement cooperative learning successfully.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

24) I have too little teaching experience to implement cooperative learning successfully.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

25) Engaging in cooperative learning enhances students' social skills.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

26) It is impossible to evaluate students fairly when using cooperative learning.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

27) There is too little time available to prepare students to work effectively in groups.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

28) There are too many students in my class to implement cooperative learning effectively.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

29) Using cooperative learning promotes friendship among students.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

30) My students are resistant to working in cooperative groups.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

31) Engaging in cooperative learning interferes with students' academic progress.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

32) Implementing cooperative learning requires a great deal of effort.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

33) Cooperative learning is inappropriate for the subject I teach.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

34) Cooperative learning enhances the learning of low-ability students.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

35) I feel pressured by other teachers to use cooperative learning.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

36) Cooperative learning is an efficient classroom strategy.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

37) Cooperative learning helps meet my school's goals.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

38) Implementing cooperative learning takes too much class time.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

39) Using cooperative learning fosters positive student attitudes towards learning.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

40) I find that cooperative learning is too difficult to implement successfully.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

41) Cooperative learning would not work with my students.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

42) I prefer using familiar teaching methods over trying new approaches.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

43) If I use cooperative learning, my classroom is too noisy.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

44) I believe I am a very effective teacher.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

45) Implementing cooperative learning takes too much preparation time.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

46) I feel a personal commitment to using cooperative learning.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

47) Cooperative learning gives too much responsibility to the students.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

48) The physical set-up of my classroom is an obstacle to using cooperative learning.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

Section II: Tell Us About Yourself

Directions

Mark the appropriate response according to the response alternatives given under each item.

49) Gender

( ) Male

( ) Female

50) Years of teaching completed

( ) 0 to 1 years

( ) 2 to 5 years

( ) 6 to 15 years

( ) 16 to 24 years

( ) 25 years or more

51) Area in which you teach

( ) Education and Legal Studies

( ) Social and Behavioral Sciences

( ) Communications, Graphics and Fine Arts

( ) Language and Literature

( ) Natural and Physical Sciences

( ) Mathematics

( ) Business Studies

( ) Nursing

( ) Allied Health Sciences

( ) Technology Studies

52) Teaching position (choose only one)

( ) Professor

( ) Associate Professor

( ) Assistant Professor

( ) Instructor

53) Ability composition of your class(es)

( ) Mostly above average ability students

( ) Mostly average ability students

( ) Mostly below average ability students

( ) Mixed (all ability levels)

54) Typical class size taught

( ) Less than 18 students

( ) 18 to 24 students

( ) 25 to 29 students

( ) 30 to 34 students

( ) More than 34 students

55) Faculty status

( ) Full time

( ) Adjunct

56) Number of years you have been implementing cooperative learning

( ) None

( ) Less than 2 years

( ) Between 2 and 4 years

( ) Between 4 and 8 years

( ) More than 8 years

57) Amount of workshop training in cooperative learning that you have received

( ) None

( ) Less than a full day

( ) Between 1 and 2 days

( ) Between 3 and 6 days

( ) More than 6 days

Directions

For questions, 58-60, check all that apply.

58) Method(s) in which you have been trained (mark all that apply)

[ ] None

[ ] Learning Together (Johnsons)

[ ] Structural Approach (Kagan)

[ ] STAD and TGT (Slavin)

[ ] Name of method was not given/Do not remember name of method

[ ] Other methods of cooperative learning.

59) Type of follow-up support in cooperative learning that you have received (mark all that apply)

[ ] None

[ ] With trainer

[ ] With fellow teacher(s)

[ ] With administrator(s)

[ ] Other

60) Time you teach

[ ] Day

[ ] Night

Section III: Current Teaching Practices

Directions

For each of the following statements, mark the response that best corresponds to your teaching practices, according to the following response scale.

61) Rate the extent to which cooperative learning is part of your CURRENT classroom routine.

( ) Entirely

( ) Largely

( ) Somewhat

( ) Slightly

( ) Not at all

62) Rate the extent to which you think cooperative learning will be integrated into your classroom routine IN THE FUTURE.

( ) Entirely

( ) Largely

( ) Somewhat

( ) Slightly

( ) Not at all

If you DO NOT use cooperative learning, please STOP here.

Directions:

*****Please answer questions 63 through 69 ONLY IF you use cooperative learning in your classes.

63) *Rate the extent to which you structure your cooperative learning activities to ensure that all group members actively work together.

( ) Entirely

( ) Largely

( ) Somewhat

( ) Slightly

( ) Not at all

64) * In a typical cooperative learning activity in your class, rate the extent to which group members actively participate.

( ) Entirely

( ) Largely

( ) Somewhat

( ) Slightly

( ) Not at all

65) * In a typical cooperative learning activity in your class, rate the extent to which your students complete their share of the group task.

( ) Entirely

( ) Largely

( ) Somewhat

( ) Slightly

( ) Not at all

66) * Rate the extent to which you implement cooperative learning in order to increase academic achievement.

( ) Entirely

( ) Largely

( ) Somewhat

( ) Slightly

( ) Not at all

67) * Rate the extent to which you implement cooperative learning in order to improve social skills.

( ) Entirely

( ) Largely

( ) Somewhat

( ) Slightly

( ) Not at all

68) * Rate the extent to which you implement cooperative learning in order to motivate students.

( ) Entirely

( ) Largely

( ) Somewhat

( ) Slightly

( ) Not at all

69) * Rate the extent to which you implement cooperative learning in order to raise self-esteem.

( ) Entirely

( ) Largely

( ) Somewhat

( ) Slightly

( ) Not at all

Thank you very much for your participation in this study. (Abrami et al., 2004)

(Permission for use of CLIQ was provided by Dr. Philip Abrami, Director and Research Chair, Centre For The Study of Learning and Performance, Concordia University, Montreal, Quebec, Canada.)

Thank You!

APPENDIX B

Cooperative Learning Implementation Questionnaire (original) (Abrami et al., 2004)

INSTRUCTIONS

This questionnaire is designed to identify factors, which may have influenced your decision about whether or not to implement cooperative learning.

Our definition of cooperative learning:

An instructional strategy in which students work actively and purposefully together in small groups to enhance both their own and their teammates' learning.

There are three sections to this questionnaire. The response scale is indicated for each section. Please check the response that best corresponds to your position. We appreciate your cooperation in completing this questionnaire.

SECTION I - Professional Views on Cooperative Learning

Directions

For each of the following statements, please circle the response on the answer sheet that best corresponds to your position, according to the following response scale.

Response Scale:
A. Strongly Agree
B. Agree
C. Undecided
D. Disagree
E. Strongly disagree

1. If I use cooperative learning, the students tend to veer off task.

2. I understand cooperative learning well enough to implement it successfully.

3. The costs involved in implementing cooperative learning are great.

4. Competition best prepares students for the real world.

5. The amount of cooperative learning training I have received has prepared me to implement it successfully.

Response Scale:
A. Strongly Agree
B. Agree
C. Undecided
D. Disagree
E. Strongly disagree

6. Cooperative learning holds bright students back.

7. There are too many demands for change in education today.

8. Cooperative learning is consistent with my teaching philosophy.

9. My students presently lack the skills necessary for effective cooperative group work.

10. For me to succeed in using cooperative learning depends on receiving support from my colleagues.

11. Using cooperative learning is likely to create too many disciplinary problems among my students.

12. Using cooperative learning enhances my career advancement.

13. For me to succeed in using cooperative learning requires support from the school administration.

14. Cooperative learning contradicts parental goals.

15. Cooperative learning is a valuable instructional approach.

16. Peer interaction helps students obtain a deeper understanding of the material.

17. My training in cooperative learning has not been practical enough for me to implement it successfully.

18. Cooperative learning is appropriate for the grade level I teach.

19. If I use cooperative learning, too many students expect other group members to do the work.

20. It is impossible to implement cooperative learning without specialized materials.

21. I feel pressured by the administration to use cooperative learning.

22. Cooperative learning places too much emphasis on developing students' social skills.

23. I believe I can implement cooperative learning successfully.

24. I have too little teaching experience to implement cooperative learning successfully.

Response Scale:
A. Strongly Agree
B. Agree
C. Undecided
D. Disagree
E. Strongly disagree

25. Engaging in cooperative learning enhances students' social skills.

26. It is impossible to evaluate students fairly when using cooperative learning.

27. There is too little time available to prepare students to work effectively in groups.

28. There are too many students in my class to implement cooperative learning effectively.

29. Using cooperative learning promotes friendship among students.

30. My students are resistant to working in cooperative groups.

31. Engaging in cooperative learning interferes with students' academic progress.

32. Implementing cooperative learning requires a great deal of effort.

33. Cooperative learning is inappropriate for the subject I teach.

34. Cooperative learning enhances the learning of low-ability students.

35. I feel pressured by other teachers to use cooperative learning.

36. Cooperative learning is an efficient classroom strategy.

37. Cooperative learning helps meet my school's goals.

38. Implementing cooperative learning takes too much class time.

39. Using cooperative learning fosters positive student attitudes towards learning.

40. I find that cooperative learning is too difficult to implement successfully.

41. Cooperative learning would not work with my students.

42. I prefer using familiar teaching methods over trying new approaches.

43. If I use cooperative learning, my classroom is too noisy.

44. I believe I am a very effective teacher.

45. Implementing cooperative learning takes too much preparation time.

46. I feel a personal commitment to using cooperative learning.

47. Cooperative learning gives too much responsibility to the students.

48. The physical set-up of my classroom is an obstacle to using cooperative learning.

SECTION II - Tell Us About Yourself

Directions

Please circle the appropriate response on the answer sheet according to the response alternatives given under each item.

49. Gender
    A. Female
    B. Male

50. Years of teaching completed
    A. 0 to 1 years
    B. 2 to 5 years
    C. 6 to 15 years
    D. 16 to 24 years
    E. 25 years or more

51. Language of instruction
    A. None of my students speak the language of instruction as their first language.
    B. A few of my students speak the language of instruction as their first language.
    C. Some (about 50%) of my students speak the language of instruction as their first language.

D. Most of my students speak the language of instruction as their first language.
E. All of my students speak the language of instruction as their first language.

52. Teaching position (choose only one)
Elementary:
A. Classroom teacher, Pre-K to Kindergarten
B. Classroom teacher, Cycle I (grades 1 to 3)
C. Classroom teacher, Cycle II (grades 4 to 6)
D. Specialist (Music, Science, Physical Education, Second Language, etc.)

Secondary:
(If you teach more than one subject, choose the one that you spend the most time teaching.)
E. Mathematics
F. Science
G. Second language
H. Language arts
I. Physical education
J. Social Science
K. Creative Arts (music, drama, art)
L. MRE
M. Special education
N. Vocational
O. Other (please specify on answer sheet

53. Ability composition of your class(es)
A. Mostly above average ability students
B. Mostly average ability students
C. Mostly below average ability students
D. Mixed (all ability levels)

54. Typical class size taught
A. Less than 18 students
B. 18 to 24 students
C. 25 to 29 students
D. 30 to 34 students
E. More than 34 students

55. Faculty status
A. Full time.
B. Adjunct.

56. Number of years you have been implementing cooperative learning
A. None
B. Less than 2 years
C. Between 2 and 4 years
D. Between 4 and 8 years

E. More than 8 years

57. Amount of workshop training in cooperative learning that you have received
A. None
B. Less than a full day
C. Between 1 and 2 days
D. Between 3 and 6 days
E. More than 6 days

58. Method(s) in which you have been trained (mark all that apply)
A. None
B. Learning Together (Johnsons)
C. Structural Approach (Kagan)
D. STAD and TGT (Slavin)
E. Name of method was not given/Do not remember name of method
F. Other methods of cooperative learning (please specify on answer sheet)

59. Type of follow-up support in cooperative learning that you have received (mark all that apply)
A. None
B. With trainer
C. With fellow teacher(s)
D. With administrator(s) (e.g., principal, curriculum consultant)
E. Other (please specify on answer sheet)

SECTION III - Current Teaching Practices

Directions

For each of the following statements, please circle the response on the answer sheet that best corresponds to your teaching practices, according to the following response scale:

Response Scale:
A. Entirely
B. Largely
C. Somewhat
D. Slightly
E. Not at all

60. Rate the extent to which cooperative learning is part of your **CURRENT** classroom routine.

61. Rate the extent to which you think cooperative learning will be integrated into your classroom routine **IN THE FUTURE**.

If you do not use cooperative learning, please stop here.

*** Please answer questions 62 through 68 ONLY IF you use cooperative learning in your classes.**

Response Scale:
A. Entirely
B. Largely
C. Somewhat
D. Slightly
E. Not at all

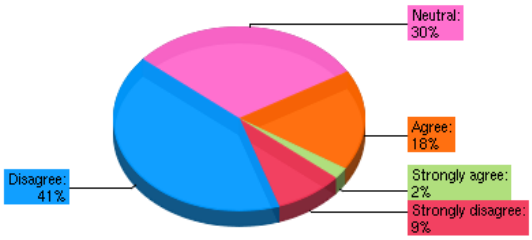
62. *Rate the extent to which you structure your cooperative learning activities to ensure that all group members actively work together.
63. * In a typical cooperative learning activity in your class, rate the extent to which group members

actively participate.

64. * In a typical cooperative learning activity in your class, rate the extent to which your students complete their share of the group task.
65. * Rate the extent to which you implement cooperative learning in order to increase academic achievement.
66. * Rate the extent to which you implement cooperative learning in order to improve social skills.
67. * Rate the extent to which you implement cooperative learning in order to motivate students.
68. * Rate the extent to which you implement cooperative learning in order to raise self-esteem.

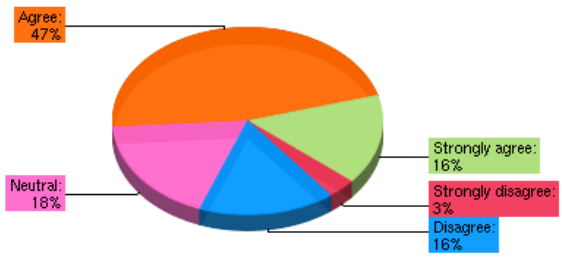
APPENDIX C

Graphs of Results for CLIQ Items 1 – 48



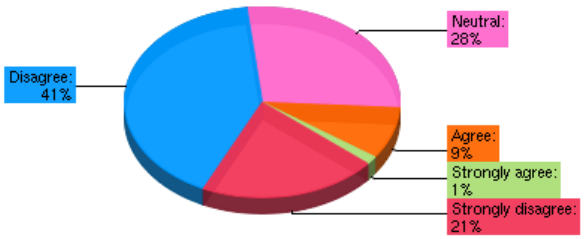
1. If I use cooperative learning, the students tend to veer off task.

Ratings	**N**	**Percent %**	**Statistics**
Strongly disagree	13	8.8%	Total Responses 148
Disagree	61	41.2%	
Neutral	45	30.4%	
Agree	26	17.6%	
Strongly agree	3	2%	



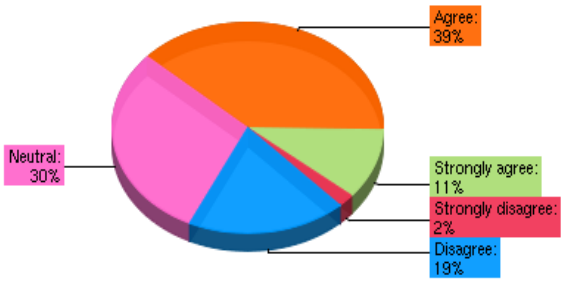
2. I understand cooperative learning well enough to implement it successfully.

Ratings	**N**	**Percent %**	**Statistics**	
Strongly disagree	5	3.4%	Total Responses	148
Disagree	24	16.2%		
Neutral	27	18.2%		
Agree	69	46.6%		
Strongly agree	23	15.5%		



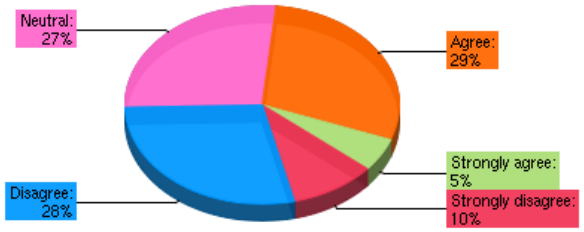
3. The costs involved in implementing cooperative learning are great.

Rating	N	Percent %	Statistics	
Strongly disagree	31	20.9%	Total Responses	148
Disagree	61	41.2%		
Neutral	41	27.7%		
Agree	13	8.8%		
Strongly agree	2	1.4%		



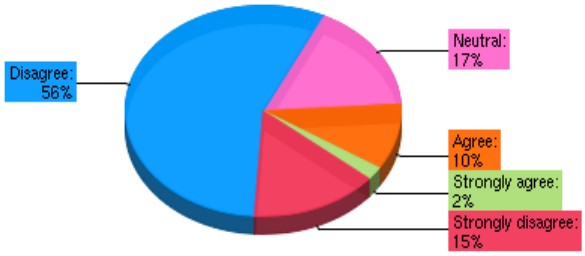
4. Competition best prepares students for the real world.

Rating	N	Percent %	Statistics	
Strongly disagree	3	2%	Total Responses	148
Disagree	28	18.9%		
Neutral	44	29.7%		
Agree	57	38.5%		
Strongly agree	16	10.8%		



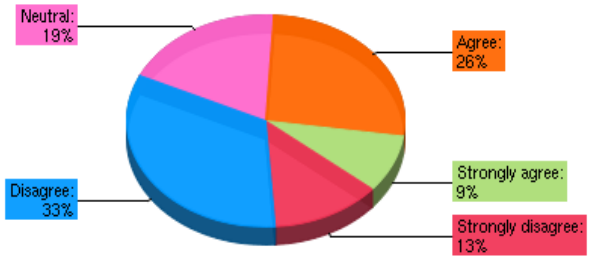
5. The amount of cooperative learning training I have received has prepared me to implement it successfully.

Rating	N	Percent %	Statistics	
Strongly disagree	15	10.1%	Total Responses	148
Disagree	42	28.4%		
Neutral	40	27%		
Agree	43	29.1%		
Strongly agree	8	5.4%		



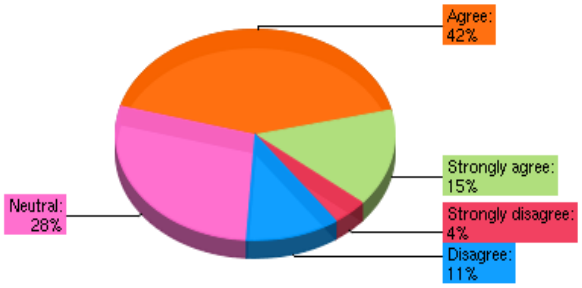
6. Cooperative learning holds bright students back.

Rating	N	Percent %	Statistics	
Strongly disagree	22	14.9%	Total Responses	148
Disagree	83	56.1%		
Neutral	25	16.9%		
Agree	15	10.1%		
Strongly agree	3	2%		



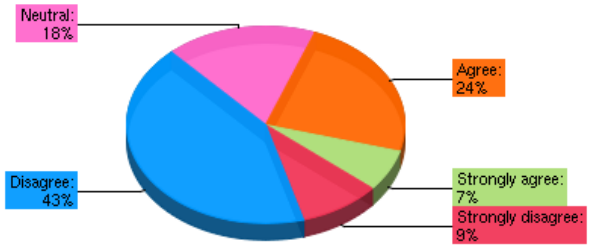
7. There are too many demands for change in education today.

Rating	N	Percent %	Statistics	
Strongly disagree	19	12.8%	Total Responses	148
Disagree	49	33.1%		
Neutral	28	18.9%		
Agree	39	26.4%		
Strongly agree	13	8.8%		



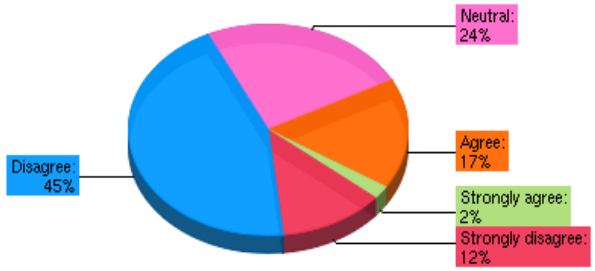
8. Cooperative learning is consistent with my teaching philosophy.

Rating	N	Percent %	Statistics	
Strongly disagree	6	4.1%	Total Responses	148
Disagree	16	10.8%		
Neutral	42	28.4%		
Agree	62	41.9%		
Strongly agree	22	14.9%		



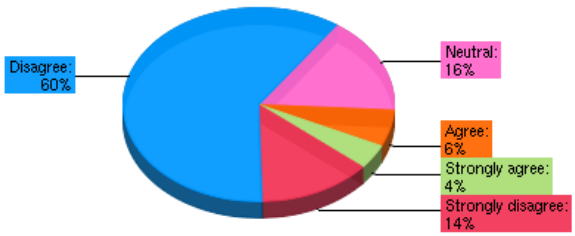
9. My students presently lack the skills necessary for effective cooperative group work.

Rating	N	Percent %	Statistics	
Strongly disagree	14	9.5%	Total Responses	148
Disagree	63	42.6%		
Neutral	26	17.6%		
Agree	35	23.6%		
Strongly agree	10	6.8%		



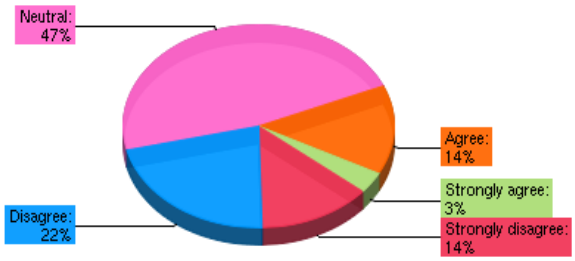
10. For me to succeed in using cooperative learning depends on receiving support from my colleagues.

Rating	N	Percent %	Statistics	
Strongly disagree	18	12.2%	Total Responses	148
Disagree	66	44.6%		
Neutral	36	24.3%		
Agree	25	16.9%		
Strongly agree	3	2%		



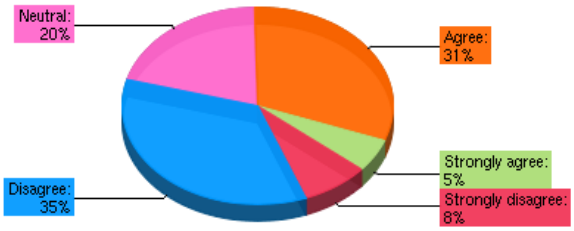
11. Using cooperative learning is likely to create too many disciplinary problems among my students.

Rating	N	Percent %	Statistics	
Strongly disagree	20	13.5%	Total Responses	148
Disagree	89	60.1%		
Neutral	24	16.2%		
Agree	9	6.1%		
Strongly agree	6	4.1%		



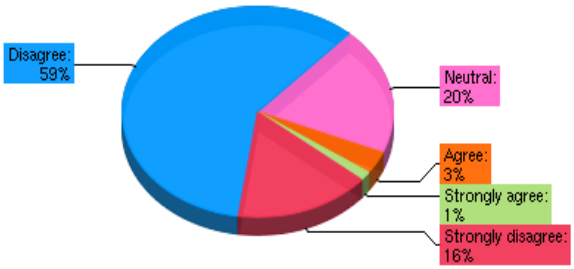
12. Using cooperative learning enhances my career advancement.

Rating	N	Percent %	Statistics	
Strongly disagree	20	13.5%	Total Responses	148
Disagree	32	21.6%		
Neutral	70	47.3%		
Agree	21	14.2%		
Strongly agree	5	3.4%		



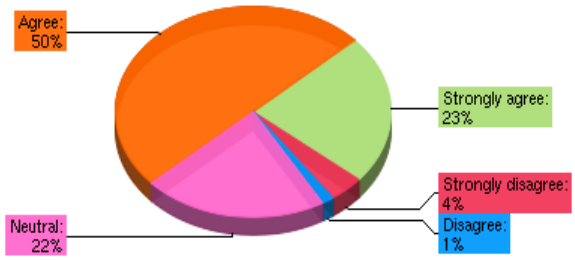
13. For me to succeed in using cooperative learning requires support from the school administration.

Rating	N	Percent %	Statistics	
Strongly disagree	12	8.1%	Total Responses	148
Disagree	52	35.1%		
Neutral	30	20.3%		
Agree	46	31.1%		
Strongly agree	8	5.4%		



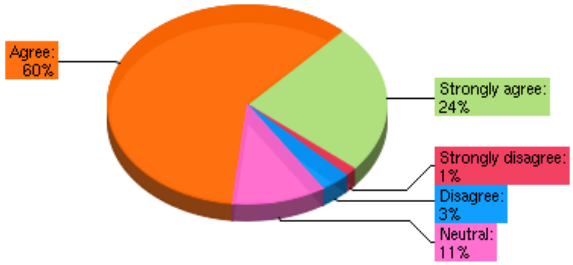
14. Cooperative learning contradicts parental/student goals.

Rating	N	Percent %	Statistics	
Strongly disagree	24	16.2%	Total Responses	148
Disagree	88	59.5%		
Neutral	29	19.6%		
Agree	5	3.4%		
Strongly agree	2	1.4%		



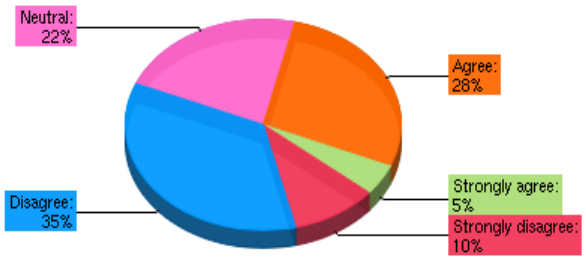
15. Cooperative learning is a valuable instructional approach.

Rating	N	Percent %	Statistics	
Strongly disagree	6	4.1%	Total Responses	148
Disagree	2	1.4%		
Neutral	32	21.6%		
Agree	74	50%		
Strongly agree	34	23%		



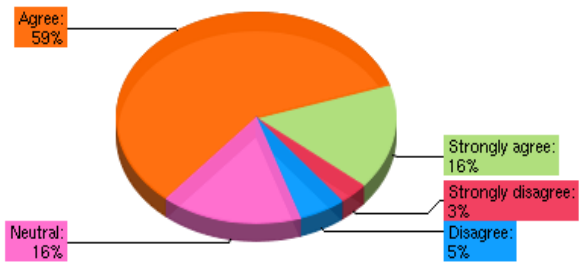
16. Peer interaction helps students obtain a deeper understanding of the material.

Rating	N	Percent %	Statistics	
Strongly disagree	2	1.4%	Total Responses	148
Disagree	5	3.4%		
Neutral	16	10.8%		
Agree	89	60.1%		
Strongly agree	36	24.3%		



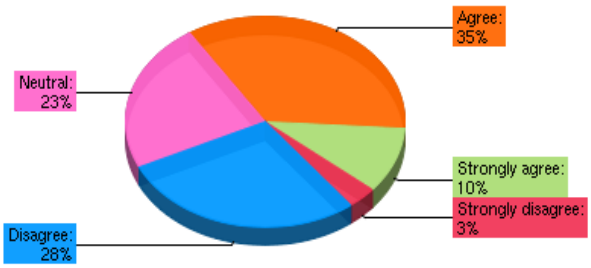
17. My training in cooperative learning has not been practical enough for me to implement it successfully.

Rating	N	Percent %	Statistics	
Strongly disagree	15	10.1%	Total Responses	148
Disagree	52	35.1%		
Neutral	33	22.3%		
Agree	41	27.7%		
Strongly agree	7	4.7%		



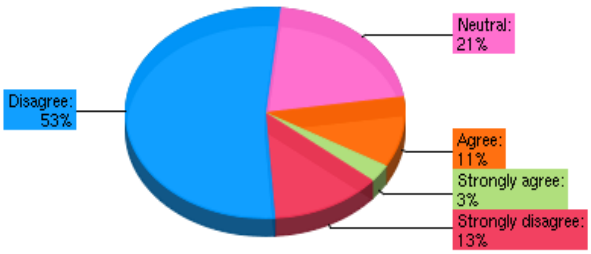
18. Cooperative learning is appropriate for the grade level I teach.

Rating	N	Percent %	Statistics	
Strongly disagree	5	3.4%	Total Responses	148
Disagree	8	5.4%		
Neutral	24	16.2%		
Agree	87	58.8%		
Strongly agree	24	16.2%		



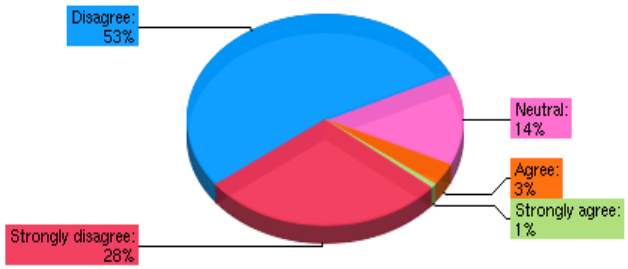
19. If I use cooperative learning, too many students expect other group members to do the work.

Rating	N	Percent %	Statistics	
Strongly disagree	5	3.4%	Total Responses	148
Disagree	42	28.4%		
Neutral	34	23%		
Agree	52	35.1%		
Strongly agree	15	10.1%		



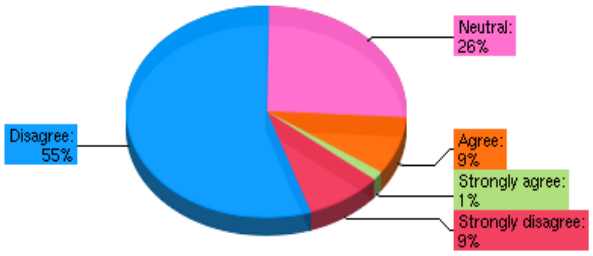
20. It is impossible to implement cooperative learning without specialized materials.

Rating	N	Percent %	Statistics	
Strongly disagree	19	12.8%	Total Responses	148
Disagree	78	52.7%		
Neutral	31	20.9%		
Agree	16	10.8%		
Strongly agree	14	2.7%		



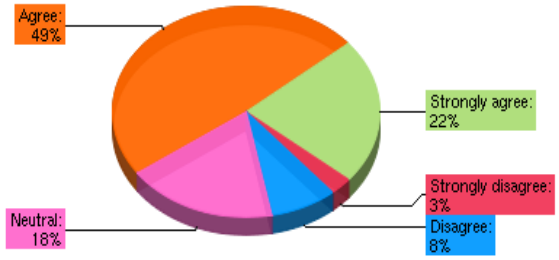
21. I feel pressured by the administration to use cooperative learning.

Rating	N	Percent %	Statistics	
Strongly disagree	42	28.4%	Total Responses	148
Disagree	79	53.4%		
Neutral	21	14.2%		
Agree	5	3.4%		
Strongly agree	1	0.7%		



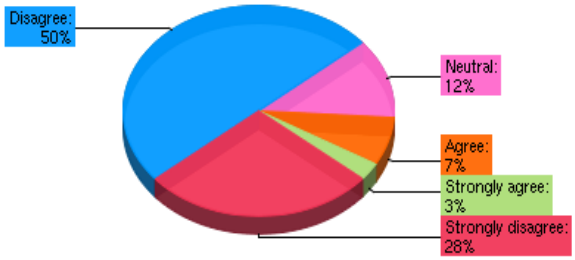
22. Cooperative learning places too much emphasis on developing students' social skills.

Rating	N	Percent %	Statistics	
Strongly disagree	13	8.8%	Total Responses	148
Disagree	82	55.4%		
Neutral	38	25.7%		
Agree	13	8.8%		
Strongly agree	2	1.4%		



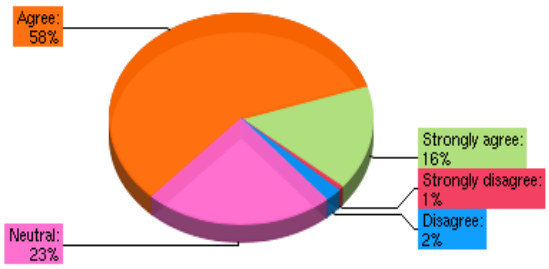
23. I believe I can implement cooperative learning successfully.

Rating	N	Percent %	Statistics	
Strongly disagree	4	2.7%	Total Responses	148
Disagree	12	8.1%		
Neutral	27	18.2%		
Agree	72	48.6%		
Strongly agree	33	22.3%		



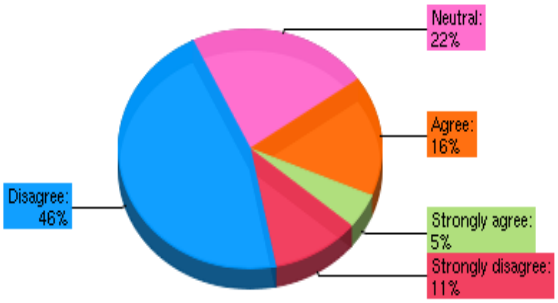
24. I have too little teaching experience to implement cooperative learning successfully.

Rating	N	Percent %	Statistics	
Strongly disagree	41	27.7%	Total Responses	148
Disagree	74	50%		
Neutral	18	12.2%		
Agree	11	7.4%		
Strongly agree	4	2.7%		



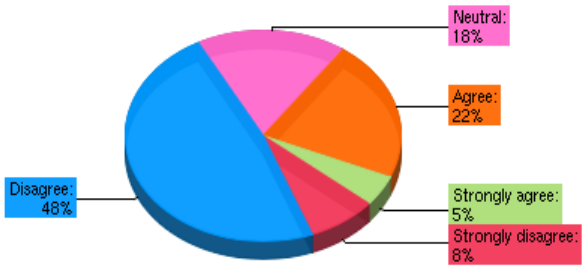
25. Engaging in cooperative learning enhances students' social skills.

Rating	N	Percent %	Statistics	
Strongly disagree	1	0.7%	Total Responses	148
Disagree	3	2%	Sum	573.0
Neutral	34	23%	Mean	3.9
Agree	86	58.1%	StdDev	0.72
Strongly agree	24	16.2%		



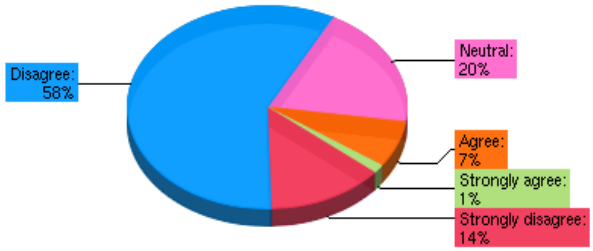
26. It is impossible to evaluate students fairly when using cooperative learning.

Rating	N	Percent %	Statistics	
Strongly disagree	16	10.8%	Total Responses	148
Disagree	68	45.9%		
Neutral	33	22.3%		
Agree	24	16.2%		
Strongly agree	7	4.7%		



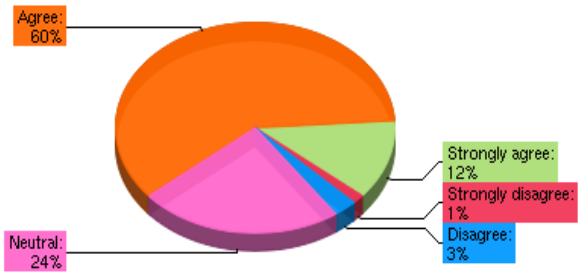
27. There is too little time available to prepare students to work effectively in groups.

Rating	N	Percent %	Statistics	
Strongly disagree	12	8.1%	Total Responses	148
Disagree	71	48%		
Neutral	26	17.6%		
Agree	32	21.6%		
Strongly agree	7	4.7%		



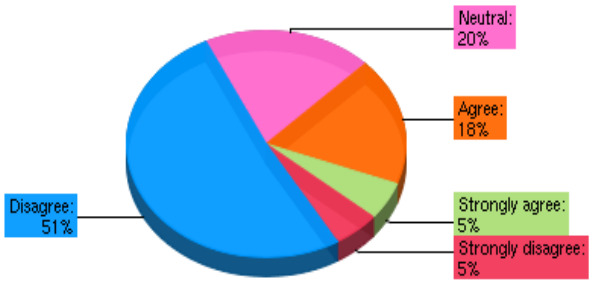
28. There are too many students in my class to implement cooperative learning effectively.

Rating	N	Percent %	Statistics	
Strongly disagree	20	13.5%	Total Responses	148
Disagree	86	58.1%		
Neutral	29	19.6%		
Agree	11	7.4%		
Strongly agree	2	1.4%		



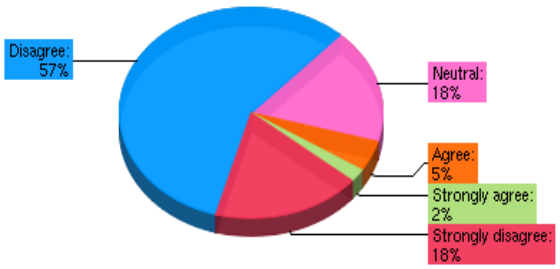
29. Using cooperative learning promotes friendship among students.

Rating	N	Percent %	Statistics	
Strongly disagree	2	1.4%	Total Responses	148
Disagree	4	2.7%		
Neutral	35	23.6%		
Agree	89	60.1%		
Strongly agree	18	12.2%		



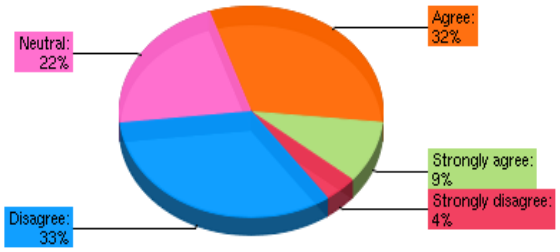
30. My students are resistant to working in cooperative groups.

Rating	N	Percent %	Statistics	
Strongly disagree	58	5.4%	Total Responses	148
Disagree	476	51.4%		
Neutral	329	19.6%		
Agree	227	18.2%		
Strongly agree	18	5.4%		



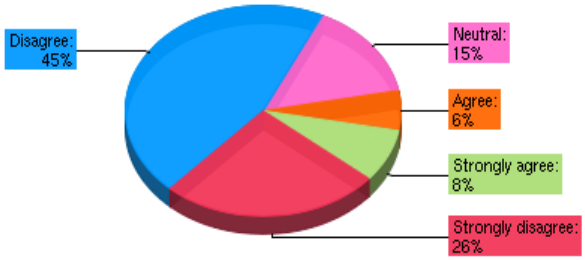
31. Engaging in cooperative learning interferes with students' academic progress.

Rating	N	Percent %	Statistics	
Strongly disagree	27	18.2%	Total Responses	148
Disagree	85	57.4%		
Neutral	26	17.6%		
Agree	7	4.7%		
Strongly agree	3	2%		



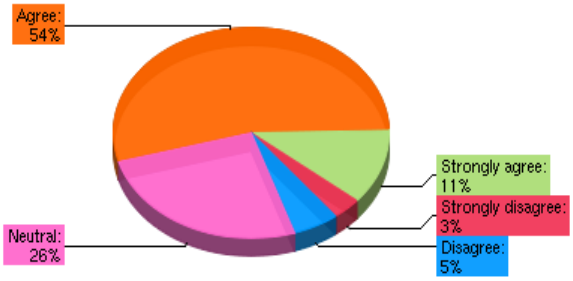
32. Implementing cooperative learning requires a great deal of effort.

Rating	N	Percent %	Statistics	
Strongly disagree	6	4.1%	Total Responses	148
Disagree	49	33.1%		
Neutral	32	21.6%		
Agree	47	31.8%		
Strongly agree	14	9.5%		



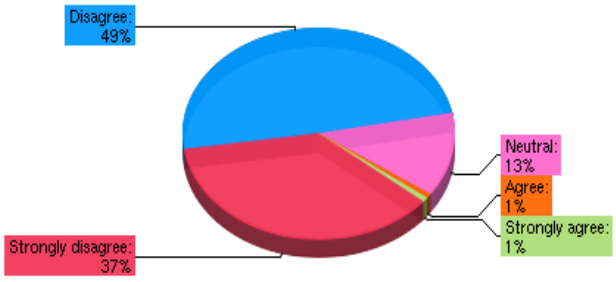
33. Cooperative learning is inappropriate for the subject I teach.

Rating	N	Percent %	Statistics	
Strongly disagree	38	25.7%	Total Responses	148
Disagree	67	45.3%		
Neutral	22	14.9%		
Agree	9	6.1%		
Strongly agree	12	8.1%		



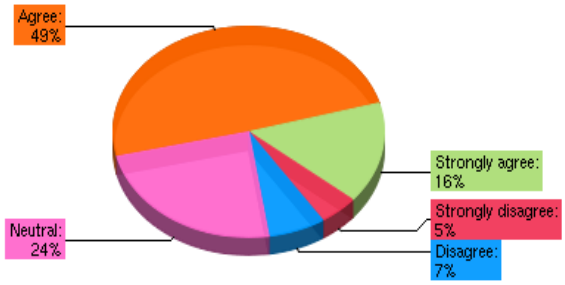
34. Cooperative learning enhances the learning of low-ability students.

Rating	N	Percent %	Statistics	
Strongly disagree	5	3.4%	Total Responses	148
Disagree	8	5.4%		
Neutral	38	25.7%		
Agree	80	54.1%		
Strongly agree	17	11.5%		



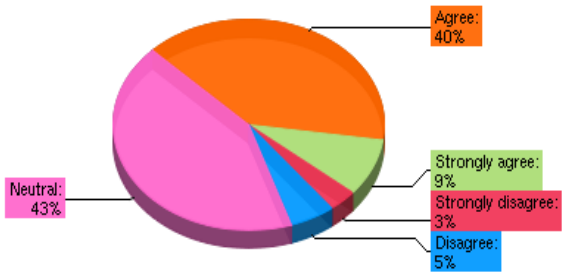
35. I feel pressured by other teachers to use cooperative learning.

Rating	N	Percent %	Statistics	
Strongly disagree	54	36.5%	Total Responses	148
Disagree	73	49.3%		
Neutral	19	12.8%		
Agree	1	0.7%		
Strongly agree	1	0.7%		



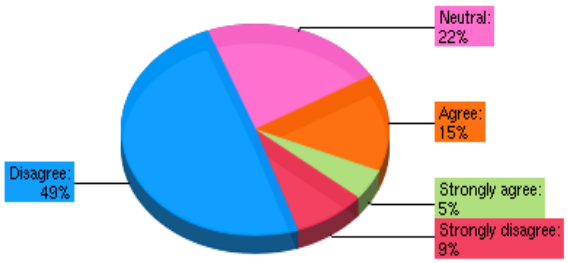
36. Cooperative learning is an efficient classroom strategy.

Rating	N	Percent %	Statistics	
Strongly disagree	7	4.7%	Total Responses	148
Disagree	10	6.8%		
Neutral	35	23.6%		
Agree	73	49.3%		
Strongly agree	23	15.5%		



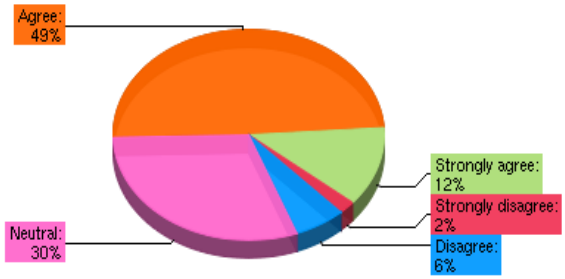
37. Cooperative learning helps meet my school's goals.

Rating	N	Percent %	Statistics	
Strongly disagree	5	3.4%	Total Responses	148
Disagree	8	5.4%		
Neutral	63	42.6%		
Agree	59	39.9%		
Strongly agree	13	8.8%		



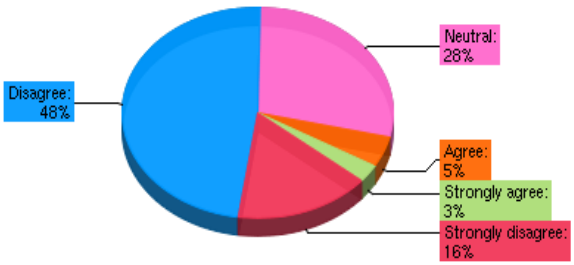
38. Implementing cooperative learning takes too much class time.

Rating	N	Percent %	Statistics	
Strongly disagree	13	8.8%	Total Responses	148
Disagree	73	49.3%		
Neutral	33	22.3%		
Agree	22	14.9%		
Strongly agree	7	4.7%		



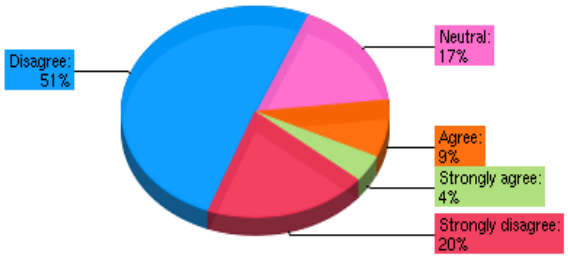
39. Using cooperative learning fosters positive student attitudes towards learning.

Rating	N	Percent %	Statistics	
Strongly disagree	3	2%	Total Responses	148
Disagree	9	6.1%		
Neutral	45	30.4%		
Agree	73	49.3%		
Strongly agree	18	12.2%		



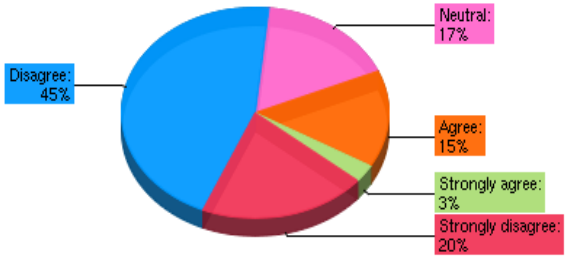
40. I find that cooperative learning is too difficult to implement successfully.

Rating	N	Percent %	Statistics	
Strongly disagree	24	16.2%	Total Responses	148
Disagree	71	48%		
Neutral	42	28.4%		
Agree	7	4.7%		
Strongly agree	4	2.7%		



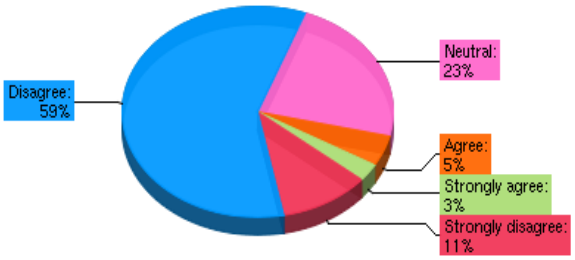
41. Cooperative learning would not work with my students.

Rating	N	Percent %	Statistics	
Strongly disagree	29	19.6%	Total Responses	148
Disagree	75	50.7%		
Neutral	25	16.9%		
Agree	13	8.8%		
Strongly agree	6	4.1%		



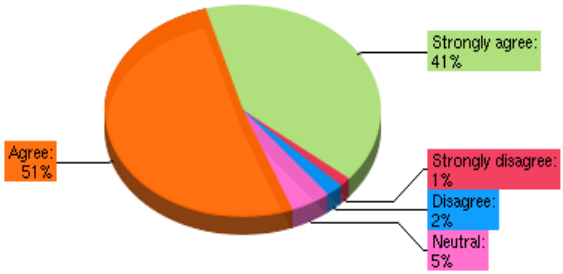
42. I prefer using familiar teaching methods over trying new approaches.

Rating	N	Percent %	Statistics	
Strongly disagree	30	20.3%	Total Responses	148
Disagree	67	45.3%		
Neutral	25	16.9%		
Agree	22	14.9%		
Strongly agree	4	2.7%		



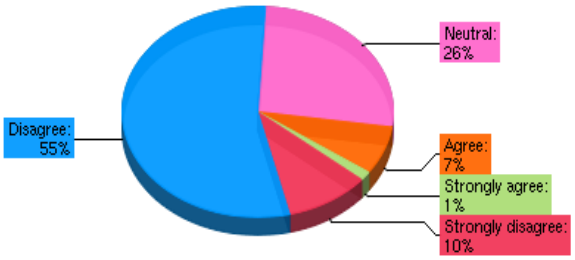
43. If I use cooperative learning, my classroom is too noisy.

Rating	N	Percent %	Statistics	
Strongly disagree	16	10.8%	Total Responses	148
Disagree	87	58.8%		
Neutral	34	23%		
Agree	7	4.7%		
Strongly agree	4	2.7%		



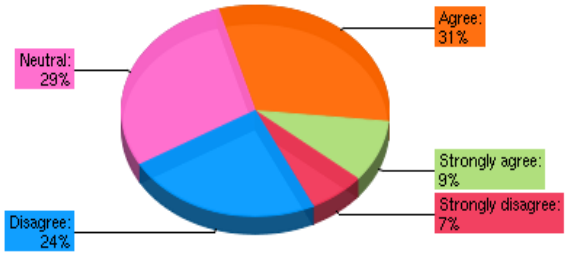
44. I believe I am a very effective teacher.

Rating	N	Percent %	Statistics	
Strongly disagree	2	1.4%	Total Responses	148
Disagree	3	2%		
Neutral	7	4.7%		
Agree	76	51.4%		
Strongly agree	60	40.5%		



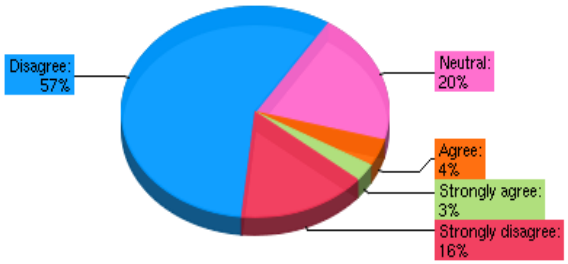
45. Implementing cooperative learning takes too much preparation time.

Rating	N	Percent %	Statistics	
Strongly disagree	15	10.1%	Total Responses	148
Disagree	81	54.7%		
Neutral	39	26.4%		
Agree	11	7.4%		
Strongly agree	2	1.4%		



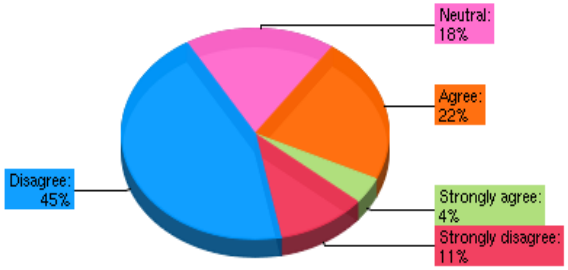
46. I feel a personal commitment to using cooperative learning.

Rating	N	Percent %	Statistics	
Strongly disagree	10	6.8%	Total Responses	148
Disagree	35	23.6%		
Neutral	43	29.1%		
Agree	46	31.1%		
Strongly agree	14	9.5%		



47. Cooperative learning gives too much responsibility to the students.

Rating	N	Percent %	Statistics	
Strongly disagree	23	15.5%	Total Responses	148
Disagree	85	57.4%		
Neutral	30	20.3%		
Agree	6	4.1%		
Strongly agree	4	2.7%		



48. The physical set-up of my classroom is an obstacle to using cooperative learning.

Rating	N	Percent %	Statistics	
Strongly disagree	16	10.8%	Total Responses	148
Disagree	66	44.6%		
Neutral	27	18.2%		
Agree	33	22.3%		
Strongly agree	6	4.1%		

APPENDIX D

Permission to Use CLIQ

From: "Phil Abrami" <abrami@education.concordia.ca>
To: "Hunter" <nmhunter@bellsouth.net>
Subject: Re: Re. Use of Cooperative Learning Implementation Questionnaire
Date: Tuesday, November 09, 2010 8:09 PM

Hi Marcia--

You may use the CIQ with the understanding that you send me a copy of your final paper(s) with the results.

Cheers,

Philip C. Abrami, Ph.D.
Professor, Director & Research Chair
Centre for the Study of Learning & Performance
LB-589-2, Concordia University
1455 DeMaisonneuve Blvd. W.
Montreal, Quebec CANADA H3G 1M8
514-848-2424 x2102 (phone)
514-848-2424 x2020 (sec'y)
514-848-4520 (fax)
abrami@education.concordia.ca
http://doe.concordia.ca/cslp/

Hunter" <nmhunter@bellsouth.net> writes:
>Dear Dr. Abrami,
>
>
>I am a doctoral student at the University of Memphis, Memphis Tn. USA. I
>am writing my dissertation, which examines the use and perception
>of cooperative learning by Community College faculty. I am
>seeking permission to use your Cooperative Learning Implementation
>Questionnaire. If permission is granted, I would also like to get
>information on the questionnaire's validity and reliability process.
>
>You help with this matter is greatly appreciated.
>
>Respectfully,
>
>Marcia Hunter, Graduate student University of Memphis, Memphis Tn. USA
>
>
>
>
>